

The workhome... a new building type?



Soft furnishings designer/maker's shed/studio (LWS02)... the dream.

The 'workhome'... a new building type?

This research is concerned with the hybrid building that combines dwelling and workplace (the 'workhome'). In the 1980-90s the 'live/work unit' emerged as an apparently new architectural type. It captured the imagination of marketers and urban professionals looking for alternatives to suburban living, presenting a design-led strategy for urban renaissance. However, home-based work and its associated building type have existed in England for hundreds of years. The building type has until now been nameless, which may have contributed to its lack of attention in architectural histories and classification systems.

This thesis investigates a wide range of buildings that combine dwelling and workplace with three aims: to establish an identifiable building type with a continuous, traceable history, to explore the contemporary manifestation of this building type, in part through the development of a number of typologies and to contribute to the debate on architectural solutions and governance policy for this building type.

Conventional architectural typologies tend to trace the development of mono-functional buildings. This dual use of buildings, even when documented in architectural drawings or social records, has generally been hidden. Research into this building type, in England from the medieval period to the twentieth century, suggests that there is a continuous presence of 'workhomes', some purpose-built and some involving adaptations of existing structures. Despite variations over time, place, economic activity and social class, trends can be noted in the layout, external features and patterns of use. This suggests that it is possible to devise a new lexicon of such buildings.

Archival research of drawings, diaries and inventories has been carried out to document 'workhomes' over time. A survey of 76 people (working at or from home, or living at their workplace, in East London, in a West Sussex village or in a suburban location) and their premises, has been carried out in order to gather contemporary evidence. An annotated visual database of workhomes has been developed from which a number of typologies has been derived. This, together with the synthesised historical and contemporary evidence, has been used to make an informed contribution to ongoing debates on design solutions for sustainable workhomes, and on governance issues relating to this building type. In addition, an investigation has been made into the language used to describe such buildings and a proposal has been made for a stable set of terms that may contribute to this previously hidden building type being accepted into the architectural lexicon.

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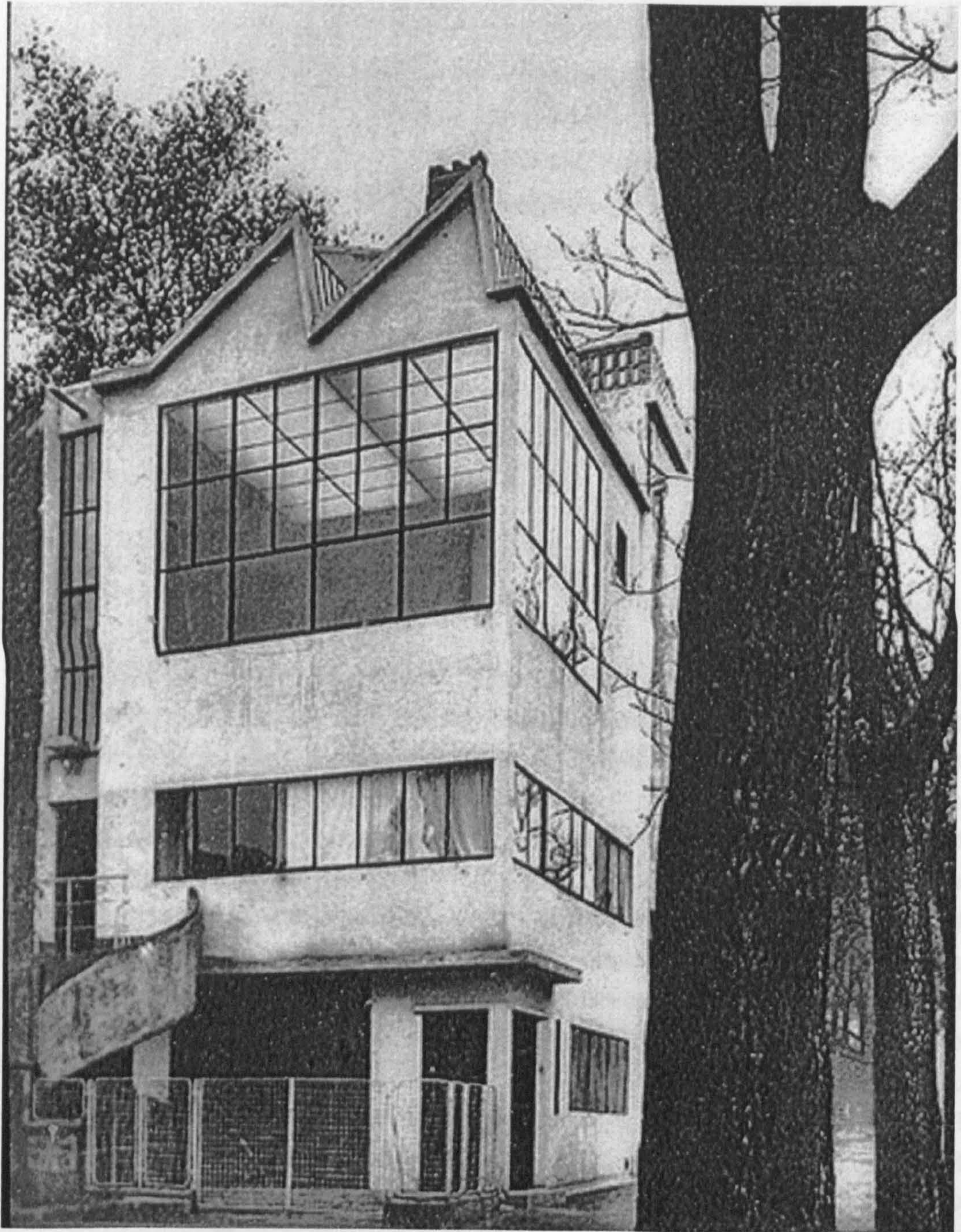


Figure 1: Studio-house for artist Amedee Ozenfant (Paris 1922) by Le Corbusier

Introduction – the new problem of living and working?

“Unlike most other employment, homework does not form a distinct and organised section of the industrial world, but an unknown country without chart or beaten tracks, in which the boundaries and landscape are continually shifting, so the investigator has practically to grope his way through it.” (Irwin, 1903)¹

When setting a ‘live/work’ project for architectural students, no specific books on the subject were found. But many hybrid buildings that combine dwelling and workplace were revealed, old and new, famous and unknown, incidental to the main theme of various books and journals. Further reading confirmed that not only had the history of these buildings not been compiled, but that little had been written overall. It appeared that they had not previously been considered as a type. In parallel to the practice of home-based work, its associated buildings also apparently formed an “...unknown country without chart or beaten tracks...”

The purpose of this thesis, then, is to make a contribution to filling this gap in current knowledge through a study of the buildings in which home-based work takes place, traced over time in England. By developing an empirically derived conceptual framework (constructed by pulling together relevant evidence, contributing to the debate on terms, and developing a historical narrative and a series of typologies) around the building type that combines dwelling and workplace, this thesis aims to encourage the acceptance of these buildings, as a distinct type. It also aims to contribute to the growing acceptance of home-based work itself as a distinct form of employment. While there has been a great deal of research into the often hidden practice of home-based work, little has been written about the associated hybrid buildings. The overall phenomenon appears to be neglected in terms of detailed analyses of the practice and its spatial arrangements, and the development of policies that reflect them. The research idea behind this thesis is that, far from being something new, this is a way of life deeply embedded in society that has generated an extensive collection of buildings. This thesis proposes that, in the current social, economic and technological context, this may be interpreted as an important ‘new’ building type, despite its existence in the UK for hundreds of years. Finding this building type to be nameless, this thesis has investigated the language used for the identification of different building types and has developed a stable set of terms for the practice of home-based work and its associated building type. The term ‘workhome’ has

¹ Cited in FELSTEAD, A. & JEWSON, N. (2000) *In work, at home : towards an understanding of homeworking*, London, Routledge. p24

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been proposed as a generic term for the building type, introduced here to bring clarity to the thesis from the start. A full discussion of the term will be found in Chapter One.

This thesis has a concern with, and sense of the importance of, 'everyday life' in the analysis and understanding of space and the built environment; space and society cannot be separated. So, unlike most architectural studies, this research has a central preoccupation with people and their activities, closely observed. Unlike most sociological studies, which focus on who is working at home and what they are doing, it also has a central preoccupation with buildings and space. This thesis, like the buildings and the practices it is focused on, is a hybrid.

It investigates a wide range of buildings that combine dwelling and workplace with three aims. To establish the workhome as an identifiable building type with a continuous, traceable history; to explore the contemporary manifestation of this building type, in part through the development of a number of typologies; and to contribute to the debate on architectural solutions and governance policy for this building type. Although these historical and contemporary studies would be of interest individually, it was considered they would be more powerful in combination. This was ambitious in a single thesis but, as the over arching aim was to provide an evidence-based conceptual framework for a previously unidentified building type, the decision to continue on this basis was taken.

The literature on home-based work and its associated buildings was reviewed. It emerged that there has been a tendency for sociological research to be approached from two contrasting perspectives, (either as the unregulated and oppressive practice of 'homeworking', or as the positive, 'modern' practice of home-based entrepreneurship or 'tele-work'), rather than holistically. It also became clear that published information on both historical and contemporary workhomes was usually fragmentary, incidental to the main theme of the publication and descriptive rather than analytical. A picture emerged of a building type as common as 'house' or 'shop' that had apparently neither been identified as such nor systematically documented. Ideas of space, and issues of classification, were also investigated.

A study, based on medieval archaeological findings, extant buildings and archives, as well as historical maps, publications and documents, traced the history of this building type from medieval times to the present day in England. Buildings were examined in four periods: medieval, proto-capitalist, nineteenth century/industrial and twentieth century/

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contemporary. Interviews were held with 76 contemporary home-based workers from diverse socioeconomic and ethnic backgrounds, engaged in a wide range of occupations, in rural, suburban and urban contexts. Photographic and measured surveys were made of their premises to enable plans to be drawn. Both the people and the buildings, while individually unique, were found to conform to a limited number of types, from which a series of typologies was developed. A cross-analysis of these typologies found a mismatch between the contemporary 'idea' of the workhome, often confused with the loft-style apartment, and the spatial and environmental needs of most members of the home-based workforce.

This thesis assembles evidence to show that home-based work is a widespread and rapidly growing phenomenon across the socioeconomic spectrum. It argues that the information revolution presents as radical a shift in contemporary society as the industrial revolution did 200 years ago, and that the spatial consequences of this may be profound. While industrial capitalism depended on a spatial separation between workplace and dwelling, it is suggested that informational capitalism tends to bring these spheres back together again. Developments in telecommunications and information technology make it possible for an increasing proportion of the workforce to be home-based for at least part of the week. In parallel, cultural, political and economic changes since the 1960s have seen an increasing number of women entering the workforce, which has led to competing demands on many carers' time. In this research, home-based work has been found to be a popular practice that gives people a great deal of control over their lives.

In the context of a rapidly developing environmental crisis, this thesis also shows how home-based work has the potential to contribute to a reduction in carbon emissions by reducing the distance travelled by the working population. In addition, by reducing the number of residential buildings empty during the day and commercial buildings empty at night, the overall need for space is reduced, thus making the use of the building stock more efficient. This thesis argues that this building type has important implications for urban design and regeneration and that the practice of home-based work is beneficial in terms of equal opportunities and inclusive employment practices.

Having analysed this previously unacknowledged building type and cross-referenced it to the home-based workforce, this research has identified a number of design issues that are not generally solved in the contemporary purpose-built workhome. It has also identified governance issues that stand in the way of the development of this sector and

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its associated building type. This thesis shows how regulations rooted in the industrial past are increasingly inappropriate to the new informational society. An out-dated conceptual framework for governance, based on the spatiality of industrial capitalism rather than that of informational capitalism, may be discouraging the acceptance and encouragement of this practice. As a consequence, the development of appropriate hybrid buildings to accommodate the employment practices generated by informational capitalism has been severely restricted.

While recognising the potential benefits to the individual, the neighbourhood and society as a whole, this research has also examined the disadvantages of this practice. Rather than being used as an argument for the elimination of the practice and buildings, an analysis of the disadvantages suggests ways that, through education, design and better governance, home-based work could become a tool for sustainable development in the informational age. An argument is also made for the further investigation of architectural precedents for this building type. Outstanding workhomes have been built, but many of these buildings remain unexamined and undervalued. There have been a number of outcomes from this process and many potential lines of further investigation have opened up as a result.

This is timely research; home-based work is a popular topic in the media. BBC Radio Four recently³ ran a series of five programmes on 'working from home', presented by journalist Zoe Williams. Beverly Hughes, New Labour Minister for 'Children, Young People and Families' has called for an extension of the right to work flexibly to the entire working population⁴. Home-based work is part of this agenda. Many websites now offer home-based work opportunities, advice and support. 'Home-based work' entered into the Google search-engine receives nearly three million responses globally, and more than one million from the UK. However, the 'live/work property finding' website, 'Live/workhomes' (Dwelly, 2006b), launched by the 'Live/work Network'⁵ in 2006, does not appear to be thriving. It currently has only ten properties on display⁶, and these have changed little over past months. This is a conundrum, in the context of a UK home-based workforce of 5.4 million (Point Topic, 2005)⁷ and a booming property market. It may be an indication of the difficulties that currently surround this building type. The research reported here will, hopefully, create a conceptual framework in which the workhome past,

³ 8-12.02.07

⁴ 12.02.07

⁵ See Chapter One for a discussion of this organisation

⁶ 16.02.07

⁷ See Chapter One for a discussion of size of UK home-based workforce

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present and future may be discussed.

This research is not, however, coming from a theoretical position. It is an empirically driven, grounded and descriptive piece of work, generated by the observation of an apparently previously unacknowledged building type. It is a primarily architectural thesis although, as a result of its subject matter, it has borrowed some techniques and literature from Social Science. The discussion of the users of the buildings has been a means for understanding the buildings in their social context, i.e. how they are actually used. It is essentially a pragmatic and practical thesis. However theoretical insights from a number of sources are drawn on in order to develop an understanding and explanation of the evidence (historical and contemporary) unearthed by this research. While this thesis raises theoretical areas for debate it is not, generally, within the scope of this thesis to engage with this discourse.

The thesis is structured in the following way:

- Chapter One outlines a review of literature on both the practice of home-based work and the associated hybrid buildings, as well as an investigation of terms, architectural classification and typology and ideas about space.
- Chapter Two discusses the range of methodologies used in the research.
- Chapter Three presents historical evidence that traces the existence of the workhome from medieval times to the present day in England.
- Chapter Four presents evidence of the contemporary workhome, drawn from interviews with 76 home-based workers in urban, suburban and rural contexts in England, and surveys of their premises.
- Chapter Five makes an analysis of the contemporary findings through the development of a number of typologies.
- Chapter Six investigates the contemporary political and economic context to home-based work, and discusses the likely consequences for its associated buildings.
- Chapter Seven draws the evidence together to make a contribution to the debate on architectural solutions and governance policy for the workhome.
- Chapter Eight draws conclusions

Photos and some drawings have been interleaved with the text in the first volume. Plans of the contemporary buildings studied and six fold-out drawings of the user-groups and typologies are included in the second volume of appendices. It may be useful to read these in parallel with the text, particularly in Chapters Four and Five.

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Chapter One: Conceptualising the 'workhome'

Copious material has been written on the social history, sociology and anthropology of home-based work across the world but apparently little on the buildings in which this work takes place. As this thesis sets out to investigate both the history of this hybrid building type and its contemporary manifestation, a literature review was carried out in a number of different areas. These included a review of a) relevant historical material, b) contemporary sociological thinking, c) research into the contemporary building that combines dwelling and workplace d) ideas of space, e) architectural classification systems and typologies, as well as f) a survey of the terms used in the sector.

Standard histories

Standard architectural histories do not tell us much about this hybrid building type, in part because it has had no name. The few buildings that combine dwelling and workplace in Pevsner's *Outline of European Architecture* (1976), organised chronologically by architectural style and illustrated primarily by churches and houses, are unacknowledged. As are those in Kenneth Frampton's *'Critical History of Modern Architecture'* (1992), organised again chronologically by architectural movement and through the work of a selection of architectural 'stars', such as Frank Lloyd Wright, Le Corbusier and Mies van der Rohe. Dennis Sharp's *'Visual History of Twentieth Century Architecture'* (1979), concerned with the development of Modernist form, includes as many of these hybrid buildings as churches. But focusing on form rather than function, their hybrid nature is easily overlooked. The dense and encyclopaedic Banister Fletcher (1996), tracing architectural history globally from prehistoric times to the twentieth century, also includes many such buildings, but the reader has to search hard in order to find them. Spiro Kostof's *'History of Architecture'* tells a broad story:

"...Architectural style comes in, of course; that was the core of my training. But I am as concerned with use and structure and urban process, with motivation and ritual sequence. I would not be at all unhappy if the book were to be seen as an offering of cultural history." (1995 Preface)

But despite this, the building that combines dwelling and workplace is largely absent from his narrative although the concluding paragraph suggests he might have had sympathy with this hybrid building type:

"... we must accept that all buildings, the standard and the fancy, are worthy of study and that buildings are only the visible tip of a complicated story that encompasses politics and economics, the philosophy of human institutions, and the identity that people of all social levels find in the built environment they inhabit. To foster such an all-embracing, culture conscious aptitude toward the built domain may yet set us free to spin a judicious architecture of our own." (1995 p761)

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However, despite their general absence in architectural histories, a large amount of historical evidence of these buildings can be found, fragmented in form. Some publications focus on the occupation of the inhabitant, such as the 'Medieval Merchant's House' (Coppack, 1991), or the 'Artist's Studio House' (Walkley, 1994). Others on particular periods, such as the 'Industrial Revolution in Coventry' (Prest, 1960). Many buildings can be found in the oeuvre of individual architects, such as 'Tadao Ando (Ando and Dal Co, 1995) or 'Frank Lloyd Wright' (Larkin and Pfeiffer, 1993). A few books compile contemporary 'live/work' buildings (Cerver, 1999, Cuito, 2000, Field and Irving, 1999), and articles describe individual projects (Kerr, 2001, Kolleeny and others, 2002, Pearson, 1992). In general these publications lack analysis and treat the hybrid buildings they describe either as 'one-offs' or as houses. Evidence can also be found in a range of other historical sources, including archives, inventories and household books. This will be discussed in more detail in Chapter Two. By bringing this material together, a picture developed of an identifiable building type with a continuous, traceable history.

Contemporary literature

Some research, piecemeal rather than part of an identifiable debate, has already been carried out into the buildings that combine dwelling and workplace, by two North American architects, Penny Gurstein and Thomas Dolan. This is discussed here alongside the work of two sociologists who are central to the well-developed debate on home-based work. In addition the work of French philosopher, Henri Lefebvre, concerning the relationship between space and society has been helpful in understanding some of the contemporary issues that surround this building type.

Penny Gurstein⁸ appears to be the pioneer in research into this building type. Her doctorate, entitled 'Working at Home in the Live-In Office: Computers, Space, and the Social Life of Households' (1990) focused on 'electronic homework' in the detached suburban US house. It looked at how home-based work is changing people's activity patterns, social networks and living spaces, and the role of the home and neighbourhood in this context. The doctorate was followed by two publications, a report on the spatial implications of IT-driven home-based work in the suburban Canadian dwelling (1995) and a book presenting the overall findings of the two previous projects (2001). Gurstein developed a typology of "space configurations" that correspond to the "degree of work penetration into the home":

"Four distinct types of spatial relationship have been identified – 'Work

⁸ Professor at the School of Community and Regional Planning and a Faculty Research Associate at the Centre for Human Settlements at the University of British Columbia

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dominates', 'Live/work blended', 'Live/work separated', and 'Work shared' – corresponding to the degree of work penetration into the home sphere... These describe the range of spatial possibilities for the live/work experience. ... 'Work dominates' describes a live/work situation in which work dominates, leaving little space for non-work activities. 'Live/work blended' is a spatial relationship in which the home environment is blended with work but there are varying degrees of separation between these two spheres. 'Live/work separated' is a home/work relationship where home and work are physically separated, but are in the same structure or on the same housing lot. 'Work shared' describes a relationship where the workspace is physically separated and shared by a group of homes." (Gurstein, 2001 p138)

Gurstein's work identified a central issue relating to this hybrid building type, the relationship between the 'work' and 'home' aspects of the building. Her work was concerned with one particular building type, the US detached family home, and one area of economic activity, IT based office work. As this thesis is concerned with a broader approach to the workhome, potentially embracing all buildings that combine dwelling and workplace, Gurstein's work was used as a springboard for the spatial analysis of the contemporary sample in this thesis. The findings from the fieldwork only partially supported Gurstein's typology, and as a result other typologies were developed (see Chapter Five).

The work of US architect Thomas Dolan, and his 'Live/work Institute', has made a major contribution to this. The 'Live/Work Institute', an adjunct to Dolan's small architectural practice, was created...

"...to advocate, encourage, and assist the development of Live/Work and Zero Commute Housing™, and to collect, organize and disseminate information about it" (2001).

Dolan's interest and expertise is in 'live/work', but he does not define this precisely. He does not appear to include the overall field of home-based work, but it is difficult to determine the boundaries of his work. The theoretical aspect of his work appears to have developed in response to the issues that have arisen from the design of live/work buildings in his architectural practice. Dolan has subsequently developed two typologies for live/work buildings, based on the...

"...observation of different approaches to configuring live/work spaces, in working with artists and other live/workers over the years (2001)

He does not reference any research⁹, which is perhaps not surprising as he appears to be practice-based, but his typologies correlate to some extent with Gurstein's. One is organised by degrees of spatial separation between the dwelling and workplace aspects of the hybrid building, the other by dominant function. In addition he has created a guide to

⁹ An email enquiring about his research received no reply.

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the Building Codes of his local area (City of Oakland, USA) to enable the development of live/work building projects. In his first typology, Dolan uses the terms 'home-occupation', 'live/work' and 'work/live' for three 'unit types'. Home-occupation is a term used in his local zoning regulations for permitted 'work' uses in a dwelling:

"This type of arrangement is what most people think of when they hear the term "working at home". The space is clearly a residence, and may or may not contain a workspace, typically in the form of an office or workshop. Reversion to commercial or work only is not desirable." (2006c)

Dolan defines a 'live/work' unit as...

"...a space in which the quiet enjoyment expectations of the neighbors in the building or adjacent buildings take precedence over the work needs of the unit in question. Therefore, the predominant use of a live/work unit is residential, and commercial activity is a secondary use; employees and walk-in trade are not usually permitted". (2006b)

'Work/live' however...

"...means that the needs of the work component take precedence over the quiet enjoyment expectations of residents, in that there may be noise, odors, or other impacts, as well as employees, walk-in trade or sales. The predominant use of a work/live unit is commercial or industrial work activity, and residence is a secondary activity." (2006c)

In his second typology, Dolan introduces three spatial types of live/work building: 'live/with™', 'live/near™' and 'live/nearby™' (2006a). The definitions he gives for each of these types are:

'Live/with™':

"This type of space is what most people imagine when they picture a typical "artist's loft." A live/with™ unit is typically a single space, including a kitchen located below a mezzanine/sleeping space, which looks out over a large contiguous working space. This arrangement offers the greatest flexibility and the fewest interior partitions, allowing the user to adapt it to many different configurations. The amount of space devoted to the "live" area and the "work" area depends on the occupant's needs at the moment, and will likely vary over time as a result." (2006a)

'Live/near™':

"...meets the needs of those who feel that the proximity afforded by live/work is important, but who would nevertheless like some separation between living and working spaces. This can be to minimize exposure to hazardous materials or high-impact work activity, out of consideration for family or roommate, or simply to fill the need for the bit of distance created by a wall or floor. In a 'live/near™' unit, the living portion may more closely resemble an apartment or townhouse. The work space is separated by a wall (sometimes glazed and sometimes fire rated) or a floor." (Dolan, 2006a)

'Live/nearby™':

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"In this configuration, a short walk separates the living portion and the work space - across a courtyard, to a converted garage or other accessory structure, or up or down an exterior staircase, for example. While this type may initially appear to be simply mixed use, classification as live/work may permit its existence in places where a residential or a commercial space alone might not be permitted." (Dolan, 2006a)

These two typologies are invaluable tools for the analysis of the building type that combines dwelling and workplace, and were tested against the sample in this thesis. A few people have already developed or reconfigured them, the most prominent of whom is UK journalist/researcher Tim Dwelly.

The 'Live/work Network'¹⁰ is an on-line subscription-based organisation set up by Dwelly that disseminates information about, and offers consultancy on, 'live/work' property. It has also published a number of reports on the subject¹¹. His work has been useful in terms of identifying and confirming areas of concern and interest. It highlights how the lack of commonly accepted terminology supported by a systematic analysis of the overall field of home-based work and its associated buildings has led to inconsistencies and confusion. Dwelly focuses on what he terms 'true live/work' (2006a) which, in the terms of this thesis, means purpose-built dual-use buildings in which the work function is dominant. According to Dolan's analysis this is 'work/live', and to this thesis 'work dominated'¹². However by adopting the nametag 'live/work' for his organisation, he may unwittingly have fuelled controversy that has been preventing the expansion of the field. Many English planning departments are suspicious of 'live/work', with justification, for without a conceptual framework, they have had no way of ensuring that proposed 'live/work' developments would be workplace, rather than dwelling, dominated. Without an analysis, and an understanding, of problems that have arisen in places like the London Borough of Hackney¹³, it is not easy to rekindle confidence in the sector. This governance/regulatory platform will be discussed further in Chapter Seven. While some developers undoubtedly made large profits on live/work developments in Hackney, where 'live/work units' built on light-industrial land realised almost residential prices, it may be argued that this was a result of a generalised lack of understanding of the field rather than deliberately fraudulent action. Developers were supplying a product for which there

¹⁰ Annual subscription £168+VAT, 356 members.

¹¹ Dwelly T, 2000 *Living at Work* (for the Joseph Rowntree Foundation) York Publishing Services; Dwelly T, 2002 *Disconnected, Social Housing Tenants and the Homeworking Revolution* (for the Joseph Rowntree Foundation) York Publishing Services; Dwelly T, 2003 *Homes that Work: The Role of Housing Associations as Providers of Live/Work Accommodation* (Peabody Trust/Housing Corporation) Peabody Trust & Live/work Network; Dwelly T, 2005 *Under the Radar Live/work Network*; Dwelly T, 2005 *Rural Live/work* (Commision for Rural Communities) Live/work Network.

¹² See Chapter Five

¹³ See Chapter One

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was a clear market, workhomes in which the residential function was dominant. The Hackney planners' attitude was that, because planning permission was not needed for home-based work to be carried out in an ancillary way in the dwelling, there was no need for such workhomes to be purpose designed¹⁴. This suggests a lack of understanding of the social, spatial and environmental complexities of home-based work.

The Live/work Network elides elements of Dolan's two typologies into a further typology: 'live/work', 'work/live' and 'live/nearby' (Dwelly, 2006a, , 2003)¹⁵. A comparison of the work of Dolan and Gurstein led to the decision to attempt to corroborate, or develop, the typologies they had put forward, through an analysis of a wide range of contemporary buildings that combine dwelling and workplace in England. Before embarking on this, however, recent sociological research into the practice of home-based work was reviewed, as a way of developing some understanding of the contemporary home-based workforce.

Research into the practice of home-based work has been carried out intermittently from the nineteenth century to the present day, but in the latter part of the twentieth century home-based work became the subject of extensive study, in part because of concerns about exploitative employment practices, but also as a result of innovations in information technology and telecommunications that were leading to changes in working practices. By studying distinct social groups, and defining 'homework' in different ways, researchers presented contrasting pictures of the home-based workforce. The two most prominent sociological researchers in this field are Catherine Hakim¹⁶ and Alan Felstead¹⁷. Setting out to explore different aspects of the phenomenon, their research generated results that appear, in some ways, to be contradictory. An analysis of their work may provide a base from which to discuss the buildings inhabited by the contemporary home-based workforce.

Hakim was involved in two major research projects in this area, the first published in 1984 and 1987, and the second in 1998. The first was a report on the 1981 National Homeworking Survey, itself a follow-up to the 1980 Labour Force Survey, carried out by the Department of Employment. Based on a sample of 0.5 per cent of households

¹⁴ Meeting with Peter Heath and David Hare, LBH planning/ economic development officers 31.08.05

¹⁵ In addition, Noel Isherwood, an architect specialising in the design of live/work buildings, reproduces both Dolan's typologies on his website, re-naming 'home-occupation' as 'home/work' NOEL ISHERWOOD ARCHITECTS, (2006) www.niaarchitects.co.uk (Accessed on 28.4.06),.

¹⁶ Dr Catherine Hakim, Senior Research Fellow, Sociology Department, London School of Economics

¹⁷ Alan Felstead, Professor of Employment Studies, University of Leicester

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in England and Wales, this was the first major survey of home-based workers since Booth's study of poverty indirectly surveyed the home-based economy between 1885-1903. It was set up to investigate both the characteristics of the home-based workforce and the nature of home-based work. The second study was based on one and two per cent Samples of Anonymised Records (SARs) from the British 1991 Census, which included a 'travel to work' question and therefore enabled the identification of a home-based workforce. The results of her first study

"...aroused controversy because they revealed a picture of homeworking very different from the one being offered at the time by local and national pressure groups... There was feminist and left-wing resistance to the conclusions that many homeworkers were men; that most women homeworkers did not have young children at home; that white-collar jobs greatly outnumbered low-paid manufacturing homework jobs; that rates of pay and earnings varied a lot rather than homework being universally poorly paid work; that the majority of homeworkers seemed to be self-employed and often worked for a number of employers rather than being clear-cut cases of dependent labour working for a single employer on a continuous basis; that most homeworkers were satisfied with their jobs..." (Hakim, 1998 p179)

Hakim found that the home-based workforce included many self-employed men working largely in white-collar jobs at rates of pay above the minimum wage and inhabiting owner-occupied homes, in contrast to the oppressed ethnic minority women living in social housing, of the 1970s homeworking stereotype (Bisset and Huws, 1985). Hakim came to the...

"...inescapable conclusion that manufacturing homework is now a relative rarity; that white-collar and service-work (both traditional and new) had already overtaken traditional manufacturing work as the predominate type of home-based work, well before information technology began to exert its full influence on work arrangements in the 1980s." (1984 p10)

Accepting her own findings as surprising (1984 p10), she concluded that only 72,000 manufacturing homeworkers remained, 0.25 per cent of the total workforce of England and Wales. In her 1998 study she found that the home-based workforce was growing and white collar work was becoming the dominant form as a result of innovative telecommunications and information technologies (Hakim, 1998 p184).

In 1996, however, Felstead was involved in a study, commissioned by the Department of Employment, that aimed to provide better information about levels of homeworking in manufacture and lower-level service work, and to explore the characteristics of these types of homeworkers and their jobs (Felstead and Jewson, 1996). While acknowledging the positive attributes of the Census as a source of data, and using it himself to achieve a national over-view, Felstead outlined a range of difficulties regarding its usefulness for

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drawing firm conclusions about homeworkers. Firstly, people may have been working at home illegally and may have wished to hide information about such work from the Inland Revenue, the Department of Social Security or the Immigration Department of the Home Office. Secondly, employers may have put pressure on their employees to prevent them from declaring their work to the authorities. Thirdly, people may not have perceived their activities as 'work', defining a job as involving travel outside the home. Some male heads-of-family with conventional jobs outside the home may not have recognised homework as a 'proper' job when completing the form. In addition, some people may have experienced language problems or may have been reluctant to fill in an official form, and much homework is seasonal or intermittent, so may not have appeared in a question about the place of work 'last week' (1997 p5). Felstead quoted Huws:

"...middle-class people who do not go out to work – who may include such diverse groups as farmers, novelists, management consultants, architects, shopkeepers, hoteliers, publicans and those living from un-earned income – are much more likely to record themselves as home-based than working-class people." (Huws, 1996 p6, cited in Felstead, 2000 p62)

Felstead concluded that the Census probably excluded a substantial proportion of the most vulnerable section of the home-based workforce, the largely invisible, unskilled or semi-skilled manual workers employed either in manufacture or lower-status service work, as a result of non-disclosure. In his study of 338 such workers from four contrasting geographical locations, he found that they were predominately female, disproportionately from ethnic minority communities (1996 p96) (although the profile differed according to location) and living in rented accommodation (1996 p30 Table 5.7). Working for cash, they were usually part of the informal economy, without contracts of employment or benefits, and largely earning sums well below the minimum wage when it was introduced (1996 p83 Table 11.22). When clustered around traditional manufacturing areas, they often worked in the clothing or footwear industries.

The results of this study appear to challenge Hakim's 'inescapable conclusion'. Felstead found 3.4 per cent of his overall 15,500 households included a home-based worker, and that 63 per cent of the home-based working population identified by his study were from the manufacturing or lower-status service sector¹⁸. Although it is not possible to extrapolate Felstead's findings nationally, it seems probable that the 72,000 manufacturing 'homeworkers' identified by Hakim in 1984 were the tip of a much larger iceberg. Leonard reinforces this view in her discussion on women and the informal

¹⁸ 3.4 per cent of the overall 15,623 households included a home-based worker (531 households). Of these, 338 interviews were made with 'homeworkers' engaged in manufacture or lower status service jobs (63 per cent). It was his brief to locate and investigate these workers.

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economy (1998). She suggests that...

"...informal employment practices are more likely to be prevalent among low-skilled manufacturing homework, compared to professional, managerial and while-collar home-based employment..." (1998 p124)

...and quotes Silver's study of US homeworkers in which...

"...three out of every four homeworkers worked in the periphery, where greater competition, more labour intensive production and lower wages and benefits were the rule" (1998 p124)

It is particularly significant that, on average, 76 per cent of Felstead's subjects were paid in cash. In the London borough he studied, this rose to 95 per cent (1996 p83 Table 11.22). This is a strong indicator that these workers were operating in the informal sector and would therefore be unlikely to appear in the 11 per cent of the overall working population of the UK that make up Hakim's 'visible' home-based workforce (Hakim, 1998 p181-4).

Precise quantification of the overall home-based workforce is currently an impossible task, in part due to the lack of a standardised definition of this workforce, and the 'invisibility' of a range of home-based workers, including those operating in the informal sector. Leonard, discussing work by Thomas (1998 p16-7), suggested that between 10-15 per cent of UK households have some form of concealed income. If the informal sector is taken into account in the assessment of the overall home-based workforce, Hakim's finding, that 11 per cent of the workforce of England and Wales was working mainly from home in 1998 (1998 p184)¹⁹, might justifiably be raised to 15 per cent. In addition to this Hakim identifies, but does not attempt to quantify, the "very much larger number of people who work exclusively or mainly at home, occasionally or at certain times of year", such as IT specialists, schoolteachers and academics (1998 p185). A further sector of the home-based workforce, domestic staff, is also often ignored in this context. Their position is distinct because they work in the home of their employer, only visiting their own 'home' occasionally through the year. In effect this is a group of home-based workers that lives at their workplace. This has implications for the way we count home-based workers. A conservative estimate of people, working intermittently or for part of their week at or from home²⁰, might be a further ten per cent of the working population, suggesting a total of 25 per cent of the working population of England and Wales working at or from home, or living at their work for a minimum of one day a week.

¹⁹ Three per cent working at home; six per cent working from home as a base; two per cent living at their workplace.

²⁰ A day a week home-based work has been taken as the minimum that is significant in this dissertation, to avoid the inclusion of people working for an hour or two at home in the evening or at the weekend. At this level it is considered that there are likely to be spatial or social implications of the home-based work.

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It is not possible accurately to corroborate this, because of the complexity of the sector and the lack of comprehensive data. However a recent large-scale Broadband User Survey by Point Topic, which found nearly 19 per cent of all homes in the UK to include at least one home-based worker²¹, would appear to align with it. Their estimate of 'those working from home' amounted to 5.4 million individuals, or 18.6 per cent of the UK workforce. However their sample was selected from the residential telephone directory, and thus excluded home-based workers who only have a business telephone-line (i.e. most of those living at their workplace)²². The sample is also likely to have excluded many of the most vulnerable home-based workers, for the reasons outlined by Felstead above. Taking these sectors into account, it is reasonable to posit that the actual size of the home-based workforce in the UK is larger than found by Point Topic. A quarter of the working population of the UK might even be a conservative estimate. Furthermore this home-based workforce is growing²³.

It can be seen that, although Hakim and Felstead were both researching the home-based workforce, by defining 'homeworkers' differently, they studied different sub-sets in the overall group. Both researchers proved their point: Felstead's homeworkers were a group of largely invisible, generally female and often ethnic minority, workers who were exploited because of their lack of protection by employment legislation. Similarly Hakim's homeworkers were a fast-growing group of people, more men than women, often entrepreneurs, generating wealth and making a positive contribution to the economy of the country. The debate behind these differences and distinctions is relevant to this thesis, as it identifies two major categories of home-based worker. It also appears to identify a lack of research about home-based work as an overall entity.

This published material cast light on the practice of home-based work, and on both the history and spatiality of its associated buildings. The empirical work, however, raised some issues of a more philosophical and overtly political nature, such as the extent to which 'workplaces' are designed to embody a set of power relationships, rather than merely to provide an environment in which an occupation may be carried out. The French philosopher Henri Lefebvre's ideas about the relationship between politics and

²¹ Point Topic Broadband User Survey 2005: (The sample was a quota-based national sample with non-interlocking quotas for UK Government regions, ONS supergroups, and male: female, for respondents of 16 and above; it involved 2,017 face to face interviews, based on a quota sample covering the whole UK). It found 5.4m individuals working from home; with 28.986m people employed, this gives 18.6 per cent

²² Telephone conversations with Tim Johnson, Point Topic: 27-29 September 2006.

²³ In 1991 Hakim estimated that the 'visible' home-based workforce amounted to 11 per cent of the population of Britain, whereas in 1981 it had amounted to 1.5m or 7.2 per cent of the workforce of England and Wales. In 1968 Peter Townsend had found only 1.1 million in the UK (TOWNSEND, P. (1979) *Poverty in the United Kingdom: a survey of household resources and standards of living*, Harmondsworth, Penguin.). Although covering different populations and therefore not directly comparable, these figures suggest a steady rise in the number of 'visible' homeworkers'. The Census figures for those working mainly from home also doubled between 1991 and 2001.

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space, and the relations of power and space, examined briefly, were useful in exploring these issues. In addition, the distinction he made between three different types of space was useful when considering some of the contemporary problems that surround home-based work and the workhome.

Conceptualising space

In 1974, Lefebvre identified a...

"...little noticed contradiction between the theories of space, and spatial practice" (Lefebvre et al., 2003 p206-7)

Space was defined as the "distances of the cosmos" but the practice of 'spatial planning' was developed as a mechanism to improve the "poor appearance and regrettable tendencies" of France. Rejecting the idea of space as a fact of nature, an empty vessel in which activities take place, Lefebvre conceptualised space as a 'product' that embodies the ideas, and in particular the power relationships, of the society that produces it. He proposed the 'social' production of space, describing the city as...

"...a space that is fashioned, shaped and invested by social activities during a finite historical period." (1991 p55)

Lefebvre was interested in the relationship between politics and space...

"...today more than ever, the class struggle is inscribed in space" (1991 p55)

and in the potential for space as a tool for analysing, and therefore understanding, society (1991 p34).

Lefebvre posited space as both a mental and material construct (Elden, 2004 p181), and made a distinction between three different types of space. However, as commentator Shields says, when talking of this triad:

"Unfortunately, this early and crucial section of *Production of Space* is probably the most loosely written part of the book, and in trying to give it sense, it has suffered further in translation... Lefebvre dictated his books and avoided editing, leaving inconsistencies..." (1998 p162-3)

Much of the language used in discussing this is confusing, presumably because of Lefebvre's own less than clear text. An analysis was made of three interpretations²⁴ of Lefebvre's triad as a way of clarifying the underlying ideas (see Appendix 5). Paraphrased, these three types of space may be described as:

1) ...the actual physical space, as used by inhabitants:

"The spatial practice of a society secretes that society's space; it propounds and presupposes it, in a dialectical interaction; it produces it slowly and surely

²⁴ Nicholson-Smith's translation into English is taken as a primary source although, as Rob Shields reminds us, a translation is also an interpretation... (Shields 1998, p165.)

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as it masters and appropriates it.” (Lefebvre, 1991 p38)

2) ...the abstract space of planners, architects and cartographers, as portrayed in maps, plans and diagrams:

“Conceptualized space, the space of scientists, planners, urbanists, technocratic sub-dividers and social engineers, as of a certain sort of artist with a scientific bent – all of whom identify what is lived and what is perceived with what is conceived” (Lefebvre, 1991 p38).

and 3) ...the ideas people have about spaces in their heads, as portrayed and influenced by images on the media, overlaid with symbolism and imagination:

“Space as directly lived through its associated images and symbols, and hence the space of ‘inhabitants’ and ‘users’, but also of some artists and of those, such as a few writers and philosophers, who describe and aspire to do no more than describe. This is the dominated – and hence passively experienced – space which the imagination seeks to change and appropriate. It overlays physical space, making symbolic use of its objects.” (Lefebvre, 1991 p39)

These three types of space have been given titles in English that are somewhat counter-intuitive. The actual physical space is named ‘perceived’ space (or ‘spatial practice’), the abstract space of planners and architects is named ‘conceived’ space (or ‘representations of space’) and the ideas people have about spaces in their heads is named ‘lived’ space (or ‘representational spaces’/ ‘spaces of representation’).²⁵ However the essential idea, that these three types of space are in constant coexistence, is a powerful one. It has been useful when considering the hybrid spaces of the workhome, because the ‘lived’ spaces of ‘home’ and ‘workplace’ have a tendency to be in opposition to one another, and to differ considerably from the ‘perceived’ spaces of dwelling and workplace, and indeed the ‘conceived spaces’ of architects’ drawings and models. This will be discussed in depth later.

Lefebvre also argues that space itself has been commodified under advanced capitalism, its market value rather than its inherent use value being of primary importance to society, and likens its production to that of any other commodity. Saunders elaborates:

“From a system where commodities are produced in a spatial setting, capitalism has evolved into a system where space itself is produced as a scarce and alienable resource.” (1986 p158)

At the ‘micro’ scale, the volume housing market, in which thousands of badly designed and poorly constructed houses are built in the UK each year, can be said to illustrate this view. Despite reducing ‘living’ to its most basic elements of sleeping, bathing, cooking, dining and watching television, often in minimum space standards, these houses increase

²⁵ It would seem more logical for the actual physical space to be called ‘lived’ space and the space of symbolism and the imagination to be called ‘perceived’ space; it is probable that it is clearer in French.

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in value annually. Most people buy their home as an investment, often as a way of saving money to pass on to their children, rather than as the means for providing the ideal spaces for their life processes. One of the purposes of this thesis is to examine the extent to which the contemporary home meets the needs of its inhabitants.

This section has reviewed the ideas of those with expertise in the buildings that combine dwelling and workplace, in the practice of home-based work and has introduced a holistic theory of space. The architects used typology as a tool for analysing the buildings they studied. When read together, the sociologists' work presented an overview of the English home-based workforce. The philosophical approach identified space as both a physical and a mental construct, conceptualising it as a social product and therefore a tool for analysing society. All these ideas have influenced the conceptual framework for this thesis. Typology has been adopted as a tool for analysing both the people and the buildings in the sample, and the practice has been reviewed comprehensively later in this chapter. Acknowledging space as both a material and a mental/social construct led to a political and economic analysis of home-based work and its associated building type, the workhome in this thesis. It has also contributed to a better understanding of some of the issues that surround the buildings. One of the problems experienced in analysing the different areas of research was the lack of consensus about what constituted the home-based workforce, and what to call them. This review re-emphasised the need to define the terms used in this field²⁶.

Definition of terms

The home-based workforce

The following terms are all used in contemporary research to describe people working at or from home, or those living at their workplace:

²⁶ Although the discussion has centred on the work of Hakim and Felstead, as primary players, a great deal of other literature has also been consulted (see Appendix 18: Bibliography). Five sources have been selected for an analysis of terms; those that have not previously been discussed have been included because they illustrate the wide range of terms in current usage.

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Term	Hakim, C, (1987)	Felstead, A and Jewson, N,	Myerson, J, (1999)	Haddon, L, and Lewis, A (1994)	Henley Centre (1988)
Home-based workforce	x				
Home-based worker	x		x		x
Home-located workforce		x			
Home-located entrepreneurs		x			
Those who work at home		x			
White-collar workers that work at home		x			
Home-located producers		x			
Home-located employer		x			
Home-located workers		x			
Home-located petty-commodity producers		x			
Home-located wage-labourers		x			
High discretion home-located wage-labourers		x			
Low discretion home-located wage-labourers or homeworkers		x			
Homeworker		x			x
Traditional homeworker				x	x
Self-employed homeworker			x		
Employed homeworker			x		
Homeworker who takes work home at the weekends and evenings when busy			x		
Homeworker who works at home when they need peace and quiet			x		
Homeworker who does casual work paid by the hour			x		
Homeworker who lives where they work			x		
Homeworker who is a formal teleworker			x		
New homeworker					x
Professional tele-worker			x		
Teleworker				x	x
Telecommuter					x
Traditional white-collar worker in formal employment working from home					x
White-collar 'thinkworker'					x
People working at home					

Table 1: Terms in current usage for the home-based workforce

This demonstrates the confusion of terminology that exists in this field. Researchers were found to use different terms to describe the same phenomenon or group of people, or the same term to describe different phenomena. Some, such as Haddon and Lewis (1994) or the Henley Centre

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for Forecasting (1998, 1989), presented their research without defining their terms, apparently assuming that there was general agreement about the meaning of terms such as 'tele-worker'. Others, such as Charney et al in the Royal College of Art think-tank on working at home (Myerson, 1999), used a wide variety of terms to describe people working at or from home without an underlying explanation or analysis.

Felstead, focusing only on work that is located 'entirely in the spatial boundaries of the domestic living area' excluded people working from home, (i.e. the self-employed plumber based at home), and also people whose paid employment was carried on

"...outside the home but in premises or grounds that include their domestic living area", (i.e. the tenant farmer or caretaker) (Felstead et al., 1996 p1)

He restricted his sample further by only including people working in routine white-collar or manual activities, for firms or businesses who sold their output and who were not subcontractors. Having himself used a variety of terms in his previous publications, he recognised the semantic problem and, conceptualising homeworking in 'In Work, At Home', produced a typology of "positions within the social relations of home-located production" (2000 p16). This resulted in the traditional homeworker (whom he had previously termed a "home-based manufacturer or lower-level service sector worker") being labelled a "low-discretion home-located wage labourer". His analysis clarified the field within his particular parameters, but the awkwardness of the terms he coined means that they are unlikely enter common usage. Also, as he did not attempt to conceptualise the entire sector, many elements were left out. Hakim used the term 'home-based workforce' to describe all

"...people working at home and people working from home as a base...".
(1987 p15)

The analysis in Table 1 shows this to be the most commonly used term in the five sources surveyed.

The lack of consistency in the terminology used to refer to the sector makes it difficult to build up a clear picture of this large and complex field. As this thesis focuses on the buildings in which home-based work takes place, all such work is of interest, and a range of generic terms have therefore been needed a) to describe all people who carry out home-based work, whether they work at or from home, or live at their workplace, b) to describe the overall practice of working at or from home, or living at the workplace, and c) to describe the buildings that combine dwelling and workplace, including those where the workplace is outside the home, but in premises or grounds that include their domestic living area. Hakim's generic terms 'home-based worker' and 'home-based workforce' are the most universal and simplest terms found in current use, and have therefore been adopted in this research to refer to anyone who works in or adjacent to their homes, from

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their home as a base, or who lives at their workplace, in any occupation (for a minimum of eight hours a week). It is suggested that the universal adoption of these generic terms would bring clarity to the whole field. Other terms such as homeworker, tele-worker, out-worker, home-based entrepreneur, freelance professional, may then be applied to sub-sets within the overall field. As a development of this, the generic practice of working at or from home, or living at the workplace, in any occupation, has been termed 'home-based work' in this thesis.

The buildings

One of the problems associated with the buildings that combine the functions of dwelling and workplace is that, as a type, they are currently nameless. There is no term or word in the English language that refers to all the buildings in which people both 'work' and 'live', in the way that the word 'dwelling' applies to all the buildings in which people live. The only terms that exist describe particular sub-sets such as 'studio-house', 'live/work unit', the 'shop with residential accommodation above it', or the 'pub' in which it is generally accepted the publican lives. Previous research and writing about such hybrid buildings has focused on such sub-sets of the overall field (i.e. Banham, 1956; Walkley, 1994; Chesterton Planning and Developments, 2003). Without a generic term it is difficult to conceptualise the overall field and this can lead to confusion. Perhaps the generic term does not exist because the task of analysing the overall field has not previously been undertaken.

In medieval times, 'house' was a building in which all the functions of daily life were carried out, undifferentiated, including those that are now called 'work'²⁷. However as the dominant pattern shifted to a separation between paid employment and 'home life', the design of the dwelling adapted accordingly and the word 'house' (or 'flat', 'maisonette', 'duplex', 'bungalow', 'cottage') came to describe a series of spaces designed around the purely domestic functions of cooking, eating, sleeping, bathing and watching television. The words we use to describe the buildings we live in reinforce the fact that 'living' is a universal experience. All humans eat, sleep and breed, across all races, all cultures and all degrees of wealth. As a result, there are either universal words (dwelling, abode, habitation, home) or words that distinguish the buildings according to size, form, status, materials and construction or quality (cottage, bungalow, flat, manor, palace, tipi, igloo).

Work, however, is different. The working day of a coal-miner bears no reference to that

²⁷ 'manor house' and 'longhouse' being sub-sets

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of a Shakespearean actor, despite the fact that they are both 'doing a day's work'. The words we use to describe the buildings in which we work are therefore fundamentally different to those we use to describe the buildings in which we live. Only one universal word exists, workplace, all the others describe the buildings in terms of the activity that takes place in the building (café, factory, hospital, office, theatre, university). However, an analysis of the words we use for the buildings in which people work shows that many people often also live in them, or in attached dwellings, or they are often incorporated into dwellings (church, convent, farm, office, pub, shop, studio). The apparently 'new' concept of 'live/work' has been in existence for thousands of years and applies to many of the buildings we inhabit.

Dwelly defines 'live/work' as...

"...live/work - purpose-built dual-use property ...typically for those who need more than a room in a house to work in" (2006c)

But he goes on to recognise that the term has not yet been clearly defined:

"The concept of 'live/work' has not yet been clearly defined. It appears to mean different things to different people. For the sake of clarity in this report, a useful baseline definition could be: a development given planning consent for live/work (dual consent). But this definition still covers a huge diversity of development types. US architect Thomas Dolan, who specialises in live/work development, describes it as 'more than just the sum of housing and commercial. It should add an extra dimension in terms of community, transport, business and leisure buzz' ".(2006c)

Further clarification is needed regarding this term 'live/work', currently used to describe either one sub-set of the hybrid building type that combines dwelling and workplace or, unsatisfactorily, the entire sector.

The term 'live/work' entered the English language in the 1970s, coined to develop and market loft-style apartments in New York. Prior to artists moving in and creating an alternative lifestyle in the SoHo district of Manhattan, the area and its buildings had little value. This was a result of the re-location of its manufacturing businesses to the periphery of New York, in part because of planning blight due to a proposed freeway development. A local group of activists, led by Jane Jacobs (Zukin, 1988 p42), fought and defeated the proposal, thereby preserving an entire district of fine, nineteenth century loft buildings. Artists gradually moved into these, as the vast open spaces made ideal studios and were available very cheaply²⁸ due to the lack of demand for small factories and warehouses in central New York (Zukin, 1988 p11). By 1965, 3-5,000 artists were living and working

²⁸ \$2.28 per sq ft per year

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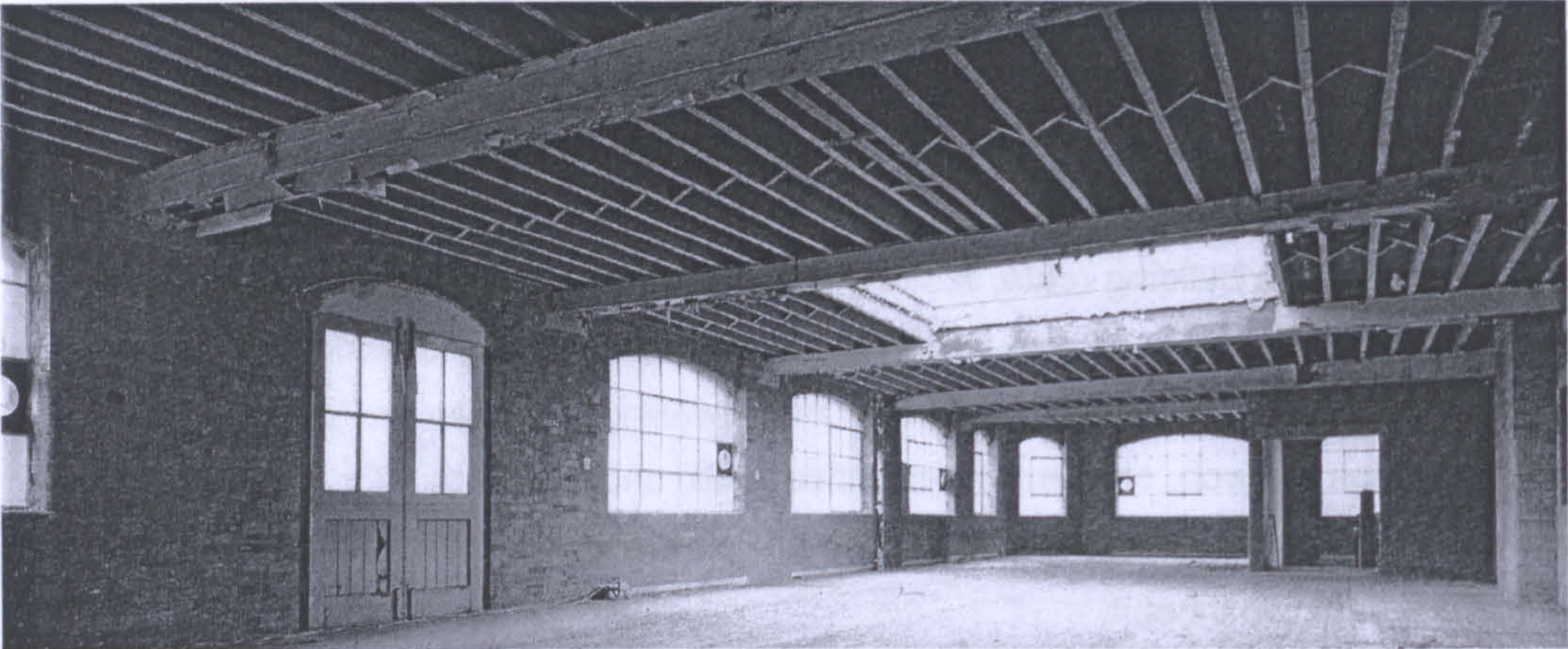


Figure 2: Open spans and high level of natural light of the New York loft

Figure 3: Imaginative inhabitation of a loft



Chapter One: Conceptualising the 'workhome'

in Manhattan. Initially their inhabitation was illegal as the area was zoned light industrial rather than residential. However after a sustained struggle, a law was passed which allowed people who were

“...regularly engaged in the visual fine arts, such as painting and sculpture, on a professional basis and so certified by an art academy association or society”...’ (Zukin, 1988 p52-4)

...to both live and work in the lofts. The new occupants approached the large scale (the average size of a living-loft was more than 2,000 sq ft), open spans and high levels of natural light of the semi-derelict spaces they moved into with imagination [fig 2, 3]. Often rejecting conventions such as ‘kitchen’, ‘bedroom’ and ‘living room’, they combined studio workspaces and living spaces in the vast lofts in original and often eccentric ways .

The neighbourhood gradually developed notoriety, with many of its inhabitants choosing to live unconventional lives. Many people lived at subsistence levels in vast unheated spaces with minimal services (often no more than a single cold tap and a toilet) in order to be able to work on their art. As a cluster of likeminded people living in challenging conditions and with many similar goals and needs, a strong collective aspect to the artists’ lifestyle developed in the neighbourhood. Some well-known artists moved in and, with the help of the media promoting the idea of ‘lifestyle’, the fact that something new and exciting was happening gradually became publicised. The immense potential value of the central district’s cheap, empty buildings was recognised by property developers, financiers and politicians who started to develop the area, initially as ‘live/work’ apartments in order to meet the legal requirement for people to both live and work there. The necessity for them to be working artists was relaxed to include people who were in some way associated with the art world, and finally to include people who were merely sympathetic to the world of art. No mechanisms were put in place to ensure that people did, in fact, work in these spaces, and it soon became apparent that, in many cases, the new apartments were ‘live/work’ in name only.

The legalisation of the lofts’ usage as affordable living and working spaces in 1964 had appeared to be a great victory for the community of artists, but it set an important and dangerous precedent, the ramifications of which were not recognised at the time. Without effective mechanisms in place to enforce the mixed usage, living and working aspect of the lofts, they were rapidly converted into what were, essentially, large, luxurious apartments. Property prices soared and within a decade the area was transformed into a smart residential neighbourhood, inhabited largely by high earning professionals. The last remaining members of the traditional, manufacturing population and the

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original artists were priced out of the area. A valuable commodity was created from the unpromising raw material of generally disused, semi-derelict factories and warehouses located in an area with minimal infrastructure, lacking schools, health facilities, shops or other local amenities. This was achieved through a process of branding; a new model of urban lifestyle emerging that was marketed energetically. The term 'live/work' was coined to sell apartments that were intended to embody the bohemian, creative, qualities of the original artists' lofts. While the idea clearly appealed to the thousands of young professionals who bought these properties, in reality many of them never worked in their live/work units. For an emerging middle-class, high-earning group, the ideal of the suburban house was swiftly overtaken by chic images of inner-city loft living. This pattern of development has been repeated in old industrial cities across the Western world, encouraged by public policy and regeneration practice (Evans et al., 2006, Bell and Jayne, 2004 p71-92). Soon the live/work unit was being dismissed as a scam by planning authorities (who saw developments being inhabited in ways they had not predicted and achieving almost residential prices) despite, paradoxically, being a building type needed as never before.

This term, 'live/work', raises a series of issues such as whether we only 'work' at our workplaces and 'live' at home, or whether the functions of 'living' and 'working' are really in opposition to each other. One might also question whether the activities that take place in the existing categories of buildings ('residential', 'commercial', 'retail', 'light-industrial') are, in fact, as rigid as their labels suggest, and therefore whether 'live/work' is really such a new building type. The verb 'to live' transformed from 'libban', through 'lybben, libbenn, lifean, lifixean, lyfan, leoflan, lifen, livien, lifenn, liven, leofen, leofven, liffe, lyve, lyfe, lef, leven, lewyn, leve, leaf, leiv', to 'live' over approximately 1,200 years. The Oxford English Dictionary (1979) cites its first use in 825AD in a Vesper Psalter and lists 13 separate meanings, each with multiple associated meanings. The contemporary meaning of the verb 'to live' when used with the adverb 'somewhere' is 'to make one's abode, to dwell, to reside, also to cohabit' (Concise Oxford Dictionary, 1999), and this is the meaning that is intended by the term 'live/work'.

'Work' is a more complex word, with more than nine pages of the OED devoted to it. This maybe reflects the changes that have occurred in the world of work over the past millennium. The verb 'to work' transformed from 'wyrcan', through 'workian, wurchen, worhta, wurhta, giworht, gewurchet, yrkja, orta, ortr, wirkia, wirza, wrochte, wrocht, wirkian, warhta, wahrt, wirken, wirkte, gewirkte, verkja, virkja, wercan, weorcan', to 'work'

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in 1,100 years. The OED cites its first use in 950AD in the Lindisfarne Gospel and lists 39 separate meanings and many allied meanings. The contemporary meaning of the verb 'to work' when used with the adverb 'somewhere' is to describe a workplace and this is the meaning that is intended by the term 'live/work'.

In reality, work of some sort happens in all buildings, but we are accustomed to differentiating between paid ('productive') work and unpaid domestic ('reproductive') work. As Raymond Williams points out...

“...an active woman, running a house and bringing up children, is distinguished from a woman who works, that is to say takes paid employment.” (1976 p282)

Although housework and childcare²⁹ are not usually acknowledged as 'real' work (except by radical feminists or, maybe unexpectedly, the ONS report of 2000 that put a value of £877.3 billion per year on such work (Francis and Tiwana, 2004)), they are universal forms of work carried out in dwellings across all cultures, all socioeconomic classes, all races, in the world, so all buildings which are homes are also, automatically, workplaces. Similarly the idea that we only 'live' in our homes makes no sense if examined closely, as it appears to suggest that our lives are somehow suspended while we are away from our homes.

In reality we 'live' just as much at our workplaces as we do in our dwellings. The underlying meaning of the word, 'to live' is 'to be alive, to have life, to be capable of vital functions', in this context all buildings are places where people 'live'. If the word 'work' is interpreted as an invocation to labour or to toil, all buildings are also places where people 'work'. This appears to render the term 'live/work' utterly meaningless. Our language, is essentially contradictory and our ability to analyse such things can raise more questions than it answers, running the risk of clouding the field as much as it clarifies. In this case it indicates the linguistic and conceptual quagmire within which this work is situated.

The importance of language emerges in their use in Planning, where the words used to define Use Classes inadequately describe the buildings in which the complex, subtle, ever-changing actions that make up a person's life take place. 'Dwelling' and 'workplace' are the generic terms used to describe the buildings in which we either 'live' or 'work'. A similarly generic term is needed for the hybrid building type that combines dwelling and workplace. The London Borough of Waltham Forest initially adopted 'workhome' in its planning guidance, although this has since been changed to conform to the prevalent

²⁹ 'Unpaid reproductive work'

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'live/work'. A website selling such hybrid properties, run by the Live/work Network is called 'Live/workhome'.

The term 'live/workplace', pronounced with the emphasis on 'work', as in workplace, was devised and adopted initially in this thesis, as it emphasised the workplace function (which is what essentially differentiates this building type from 'dwelling') while both referring to the contemporary 'live/work' movement and acknowledging the hybrid nature of the building. But this term was finally rejected because a) it was considered to have too close an association with the currently problematic 'live/work' movement, b) by employing the term 'live' to mean 'dwelling', it suggests that one's life is suspended when at work, c) it is a mouthful, and is prone to mispronunciation (i.e. the first syllable to rhyme with 'jive').

The preferred option was the term 'workhouse'. First used in 1350, this term's original meaning was

"A house, shop or room in which work is regularly performed" (1979)

This also provided a satisfying series of subsets: shop-house, workshop-house, bake-house, public house, farmhouse, studio-house, boarding house, many of which have been in regular use for centuries. But the meaning that developed over time...

"A house established for the provision of work for the unemployed poor of a Parish. Later an institution administered by Guardians of the Poor in which paupers are lodged and the able-bodied set to work." (1979)

...has historical associations that are overpowering and so 'workhouse' was also rejected. The term 'workhome' was finally settled on. Its development will be discussed further in the thesis, as one of the findings of the empirical work. It suggested that this is adopted as the generic term for this 'new' building type across the sector.

To sum up, these are the terms used in this thesis:

The person = home-based worker / home-based workforce

The practice = home-based work

The building = workhome

Architectural classification and typology

Having proposed a name for the building type that combines dwelling and workplace, and bearing in mind that one of the aims of this thesis was to establish this as an identifiable building type, existing architectural, or building, classification systems and typologies were examined. In particular, the difference between a classification system and a typology needed clarification. This was considered important as classification and

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typology are fundamental to the architectural knowledge base.

Classification

Classification is a system for making sense of a large quantity of information by ordering it into groups. For example, the Linnean Classification system classifies all living things into five kingdoms, then into types that are divided and subdivided five further times to incorporate nearly two million known species. It is a useful tool for understanding living things.

The Abridged Building Classification (ABC), devised by the International Building Classification Committee (Geirtz and Hughes, 1985), divides buildings into four main groups by function: 1. Public, civil, commercial, and industrial buildings. 2. Ecclesiastical architecture, religious and funerary architecture. 3. Buildings for education, scientific and cultural purposes and 4. Residential buildings. Each of these groups is divided into seven or eight sub-groups, to give 30 classes for all buildings. This system is primarily used for governance purposes, incorporated into planning law and building regulations. As a system it is of limited usefulness, not because of the buildings that are easily classified ('church', 'factory'), but because of those that exist at the fringes of categories or do not fit into a single category. It has difficulty placing buildings with hybrid functions, for example a boarding school is an educational establishment, but it is also a residential building. Similarly, mixed buildings consisting of shops, offices and housing accommodation are placed in the industrial section. Here combined functions are acknowledged, but it is not clear why this it is classified as industrial rather than residential or why it was not placed in a separate group devoted to mixed-use buildings.

The ABC is a crude tool to describe and define the buildings of an increasingly complex world. With advancing telecommunications systems and information technologies, the use of buildings is changing. In Tottenham, Northeast London, the public library is also the public swimming pool. The British Library, while housing one of the largest collections of books in the world, is also a conference centre, a gallery, a shop, a café, a restaurant and an educational facility for schoolchildren. Where the Linnean classification is an infinitely expandable and flexible system, the ABC appears to be rigidly, and maybe inappropriately, rooted in past certainties. There is urgent need for a classification system for buildings that has the ability to accommodate the new generation of often complex, hybrid buildings, into which the workhome would fit. This is not just necessary on intellectual grounds, but also for planning/ regulatory reasons.

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It appears that there might be a related issue for an ongoing research programme into the Non Domestic Building Stock of England and Wales, (Steadman and Bruhns, 2000b, Steadman and Bruhns, 2000a), based at University College London, that is involved in the ambitious project of classifying both the activities carried out in, and the building form of, the non-domestic building stock in four sample English towns, and extrapolating these results to cover the whole of England and Wales:

"The primary classification is hierarchical, with four principal divisions - commercial, hospitality and leisure, industrial and social - at the highest level; and below these thirteen bulk types. Within the bulk types there are (at present) 57 primary types, designed to provide the most useful level of classification for most analyses. Examples include 'local government office', 'retail warehouse', 'arts centre', 'bus depot' and 'special school'. Below the level of primary types are subtypes and components that retain all the information from the original data sources, and serve to record precisely what is included in each primary type." (Steadman and Bruhns, 2006)

It seems likely that a proportion of the buildings involved may have hybrid functions. This inconvenient complexity may not have been factored into the design of the classification system.

The Concise Oxford Dictionary defines 'classification' as 'the act, or a system, of arranging in classes or categories', and 'typology' as 'the study of types and their succession'. Accepting the terms 'class' and 'type' as interchangeable³⁰, this suggests that while one is a simple act, the other is the study of the groupings that result from the act. So, for example, if a classification of all buildings according to their structural system could be made, this might lead to the development of a comprehensive structural typology, through which an understanding of, and theories about, building structure could be formulated. While the terms are commonly used interchangeably, classification systems are usually used primarily to facilitate the location and identification of objects, where typologies organise material into groups as a way of developing understanding, from which ideas and theories emerge. This suggests that typology may be more useful to this thesis. Both are effective tools for the extension of knowledge. A commonly used classification system, into which every building in the world can be slotted, is the ordering of buildings by the date they were built. From this simple, objective classification, various, inevitably subjective, typologies may be developed, for example, the study of buildings by style (Gothic, Tudor, Modernist), opening avenues for the development of ideas and theories, and therefore for debate and disagreement.

³⁰ Concise Oxford Dictionary: 'Class': a set or category of things having some properties in common and differentiated from others by kind or quality. 'Type': a category of people or things having common characteristics.

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Typology

Aldo Rossi defines typology as

"... the study of types of elements that cannot be further reduced, elements of a city as well as of an architecture. The question of mono-centric cities or of buildings that are or are not centralised, for example, is specifically typological; no type can be identified with only one form, even if all architectural forms are reducible to types. The process of reduction is a necessary, logical operation, and it is impossible to talk about problems of form without this presupposition. In this sense all architectural theories are also theories of typology, and in actual design it is difficult to distinguish the two moments."
(Rossi and Eisenman, 1982 p41)

It is this 'necessary, logical operation' that will be performed on the workhome in this thesis and from which results it is expected a typology, or series of typologies, will emerge.

As most buildings are not mass-produced and every building tends to be different, the construction of a complete and comprehensive architectural typology is an impossible task. As a result, architectural typologies tend to be limited in their scope, individual authors pursuing their areas of interest by selecting and categorising buildings that interest them, in some cases including hundreds of buildings (Geist, 1983) and in others a mere handful (Four House Forms, Le Corbusier, 1947). Such typologies are usually created either as formal design tools or as vehicles for an architectural theory. They tend to be either concerned with morphology or space, or the relationship between the two, and involve the extraction of some 'universal truth'. Archives, by contrast, are descriptive collections of buildings, often categorised by function and analysed historically, and are usually created in order to accumulate and disseminate knowledge.

The French neoclassical architect J.N.L. Durand (1760-1834) created an architectural archive, travelling across Europe in order to survey and draw important pieces of architecture (1801). Tiny, delicate etchings show plans and elevations of both contemporary and ancient buildings, drawn to the same scale for easy comparison, and organised principally by function into 22 groups (such as temples, palaces, markets, town halls). As the book proceeds, the logic of the classification system collapses, moving from buildings sorted by function alone to those sorted by function and country (palaces and Greek and Roman houses) to buildings organised according to architect, function and country (Italian houses by Palladio) and finally to a section on "the nature of composition and of good style of architectural ornament". Lacking system, this book seems to be based on the buildings he personally found interesting, even including some examples that he apparently altered, or even invented, as he felt necessary (Villari, 1990

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p56) . A contemporary review suggested that...

“...the book’s principle purpose is as a reference work and it is to such an end that the most important buildings of every kind constructed in the course of the centuries by different civilizations are gathered” (Review from Journal de l’Ecole Polytechnique Cahier cited in Villari, 1990 p362).

This appears to have been the eclectic ‘copy-book’ of an architect, developed to include precedents of interest for use in their own design work. Published, it would have made a valuable addition to any practising architect’s library and would have been a useful tool for teaching architectural students (Villari, 1990 p53). But without any detailed analysis, emergent theory or overriding idea, it does not amount to a typology. However, Durand published a further book (1802), a collection of ‘lessons’ for students of architecture, in which he made drawings of different functional types of buildings and elements (such as porches, facades) extracted from many buildings, again drawn at the same scale for easy comparison. As Rossi pointed out, Durand’s underlying concern was with elemental composition, and in his second study, the ‘*Precis de Leçons d’Architecture*’, he proposes two tools with which composition can be manipulated, the axis and the grid (1982 p11)³³. This is a typology.

The architectural historian Nikolaus Pevsner wrote a history of building types (1976), classified by function. In his introduction he admitted that his choice of types was limited and arbitrary. He omitted churches as they had already been covered extensively in other architectural histories, dwellings as there were so many they would have filled a book of their own, and a further range of educational, military and cultural buildings “as they would have swelled the book to unmanageable proportions” (1976 p9). Each of the 17 chapters is dedicated to a type of, largely monumental, building with a different function (theatres, libraries, museums, hospitals, prisons), all public buildings with the exception of a chapter dealing with factories. A conventional historian, he initially identifies his dual purpose in writing the book as...

“...to watch, for each type, the order in which styles follow one another” and
“to follow changes in function and changes in planning.” (1976 p10)

Tracing the building types from Imperial Rome through to the 1970s, his chapters are a mass of dates and buildings, interspersed with commentary on style and function and remarkable historical knowledge. Plans and sections, at various scales, are juxtaposed with paintings and photographs of ‘views’ of a limited selection of the buildings, all charting the historical movement from multiple functions to single, rigidly defined functions. In his conclusion, Pevsner adds a further theme, the changing use of materials in building construction over time. Fundamentally descriptive in its nature, this work is

³³ Rossi’s interpretation of the French original

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1 Raumtypen

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2 Gebäudetypen

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3 Querschnitttypen

Figure 4: Arcade typologies (Geist)

	Seitliches Überlicht	Punktförmiges Überlicht	Überlichtfelder	Überlichtfelder	Überlichtfelder	Überlichtfelder	Überlichtfelder
1. Typen der Überlichtkonstruktion	1	2	3	4	5	6	7
Überlichtkonstruktion							
Überlichttragend							
auf Stützen							
auf Parallelbindern							
auf Betondeckbinder							
auf Stützen eingestützt							
einseitig							

Figure 5: Arcade typologies (Geist)

an architectural archive, analysed historically. It leans towards being a typology when it makes observations such as:

"The programs of hospital and prison accommodation have much in common. In both cases a number of people are confined in one place, although they would rather not be, and in both cases constant supervision is necessary."
(1976 p159)

But it does not then methodically set out the material from which the case could definitively be made. Nine pages of description of an exhaustive collection of prisons follow this essentially analytical statement. This history of types would make a very good starting point for the creation of a variety of typologies but does not amount to one in itself.

Perhaps the earliest architectural typology was made by the eighteenth century French politician, art critic and philosopher, Quatremere de Quincy. In his contribution to the 'Encyclopedie Methodique' (1788), he classified all buildings into three basic categories, 'hut', 'cave' and 'tent', according to their form, material and structural system. He acknowledged the spatial consequences of the different systems, connected them to social systems (hut= farmers, tent=shepherds, cave=hunters) and traced their influence on much later architectural traditions (hut=Greek, cave=Egyptian, tent=Oriental). In this typology, de Quincy identifies what might be considered to be a 'universal truth' about architecture, which can still be applied. He also wrote about architectural type in the final volume of the 'Encyclopedie Methodique', in which he made a clear and much-quoted distinction between the 'type' and the 'model'.

"The word 'type' presents less the image of something to be copied or imitated completely than the idea of an element which should itself serve as a rule for the model. ...The 'model', as understood in the practical execution of art, is an object that one must repeat such as it is. The 'type' is, on the contrary, an object from which one can conceive works that do not resemble each other. Everything is precise in the 'model', everything is more or less vague in the 'type'. ...Thus we can see that in the imitation of types one can recognise spirit and feeling, and nothing that can't be questioned in its prevention and ignorance." (1788 Vol 3, p544)³⁴

Geist, also takes that further step in his work on the arcade (1983), which combines a social and architectural history of the building type with a collection of more than 250 different arcades, reduces them to their basic form, in plan and in section, again drawn to the same scale to aid analysis, to create a number of morphological typologies. The form of all arcades can be identified in the satisfying series of diagrams that comprise these typologies by plan form, sectional form and roof glazing [fig 4, 5]. Ching, in his book

³⁴ Inexpert translation from the French by author

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'Architecture: Form, Space and Order' (1996), has similarly created a modest typology from linear and planar elements, additive, subtractive, centralised and clustered form, based on the study of a relatively small number of examples of each. No theory or overriding ideas emerge, but this collection of spatial and morphological types might be useful for the architectural student.

In the 1960's, Louis Kahn developed a useful spatial typology in his recognition of two fundamental types of space, 'served space' and 'servant space' (Tyng, 1984). Served space was defined as the space used by humans, while servant space was that taken up by mechanical facilities, pipes and boilers. Over time this idea expanded to encompass the major and minor spaces in any building, living spaces being 'served spaces' and bathrooms, hallways, staircases, as well as such spaces as plant rooms, being 'servant spaces'. In 1973 Kahn commented on the universal truth of this typology:

"There is nothing systematic about the servant space and the space it serves because it is only a realisation of a kind of nature (that is the realisation) of what I think is true about architecture" (Tyng, 1984 p76).

An early, clear, example of the architectural consequences of working with this spatial typology can be seen in the design of medieval castles, where service rooms and staircases are contained in hollows in the massive walls that surround the great halls (Tyng, 1984 p19).

Modern telecommunications, information and building technologies lead to the concept of the universal building that potentially supersedes functional or morphological building typologies. Architects John Weeks (1951), Eric Heaf (1976) and Florian Beigel/Philip Christou (1996), among others, have acknowledged and developed the concept of 'indeterminate'³⁵ space', involving the design of flexible, well-serviced, generous buildings that respond to their site but do not have a specific functional brief. These spaces may be adapted to fulfil a variety of functions, which may develop, or change, over time following their construction, in the same way as defunct large volume, well-lit, light-industrial buildings have been converted into studios, then live/work units, and then apartments. It is valid, in this context, to query the continuing relevance of functional type in contemporary architecture. However, the duality of 'indeterminate' and 'determinate' space in itself presents a further fundamental architectural typology, similar to that proposed by Kahn, reinforcing Quatremere de Quincy's essential defence of the 'type'. Paradoxically, Heaf suggests that the indeterminate building 'type' may nullify typologies organised by function when he says:

³⁵ 'Not exactly known, established or defined' Concise Oxford Dictionary

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Chapter One: Conceptualising the 'workhome'

"As any prediction on the future use is subject to many variables which may or may not destroy the rationale of a functional plan, it is more logical to accept that any attempt to define use is valueless. Any attempt to prescribe the use of a space will eventually be a restriction on the use of the building and so hasten its obsolescence." (1976 p30)

This idea is acknowledged and re-introduced later in the context of the empirical evidence.

The concept of typology will be used as a tool for the analysis and understanding of the home-based workforce and the workhome. A distinction has been drawn between classification and the typology, the former merely organising material into groups, the latter involving the study of the resultant groupings. A number of classification systems and typologies have been described to establish this distinction. A distinction has also been drawn between the 'type' and the 'model', in which the former "is an object from which one can conceive works that do not resemble each other", while the latter "is an object that one must repeat such as it is" (Quatremere\0300Re De Quincy, 1825). The final typology, regarding the distinction between determinate and indeterminate space, cuts across other building typologies organised by function.

Chapter conclusion

This thesis sets out to cover a wide field. Not only to trace the history and explore the contemporary manifestation of a previously unacknowledged building type, but also to contribute to the debate on architectural solutions and governance policy for this building type. As a reflection of this, the discussion in this chapter has been wide-ranging. Concerned with architectural history, as well as theories of space and ideas such as classification and typology, it is also fundamentally about people, their work and their everyday lives, and the buildings they inhabit. The importance of the development of an appropriate and accurate language to describe and analyse the buildings and practices under scrutiny has been emphasised in this chapter to avoid later confusion. Many issues are raised in this review, relating to the practice of home-based work, the buildings it is carried out, the nature of space and its relationship to society, and the language we use to describe these things. Some, such as the problematic term 'live/work', are inconclusive and will be returned to. The essential breadth of the work means that specialisms have been engaged with in a way that may not do proper justice to the expert work of others. This does not interfere with the validity of the central thesis. A picture emerges of an identifiable, but little-documented, building type, that has recently had a resurgence in the form of the 'live/work' unit. Home-based work emerges as a fast-growing employment practice that is open to different interpretations depending on the

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focus of the investigation. The language used to describe the practice and its buildings has been shown to be inconsistent and confusing, making it difficult to get a clear picture of either field. A discussion of the role of classification and typology in architecture has underlined the inherent difficulty of the nameless building type. Generic terms for the buildings, the practice and the practitioners have therefore been proposed, to help clarify thinking in this area, and to enable the acceptance of this previously unacknowledged building type into the architectural lexicon. The philosophical ideas about the nature of space and its relationship with society that have been touched on, probe underlying complexities. All this has provided a basis for the empirical research. A discussion of the range of methodologies employed in this research in the next chapter reinforces this clarification of concepts.

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Chapter Two: Researching 'workhomes'

This research has been designed in two sections as a way of meeting the three aims of the thesis (a) to establish the workhome as an identifiable building type, b) to explore the contemporary manifestation of such buildings through the development of a number of typologies and c) to make a contribution to the contemporary debate on architectural solutions and governance policy for this building type. The first section involves a historical study tracing the continued existence of the workhome through time. The second involves a contemporary study investigating the spaces inhabited by, and governance of, the twenty-first century home-based workforce. This has involved a range of research methods.

Methodology for the historical study

The practicalities of carrying out this research led to an early decision to focus on British buildings, refined to English once sufficient examples were found to warrant this³⁶. Once an overview had been established by the literature search, the research for each of four selected periods focused on a few key relevant historical sources.

Information on medieval workhomes was extracted from seventeenth century plans of medieval London, archaeological research into deserted villages and documentation of extant merchants' houses and manor houses. Inventories and household books were consulted and field visits made to extant buildings in Southampton, Kent and Oxford.

Proto-capitalist workhomes were studied through maps of Essex from the sixteenth century to the present day, and post-war transcriptions of sixteenth and seventeenth century inventories of the deceased of two Essex villages. The villages in question were visited. The lives and buildings of Huguenot silk-weavers in Spitalfields were researched through writings on the silk industry, the Survey of London, an interview with the director of the Spitalfields Trust and visits to the area, including individual silk-weaver's houses. The lives and buildings of silk-weavers and watchmakers in Coventry were researched from a key source, Prest's 'Industrial Revolution in Coventry' (1960), augmented by visits to extant buildings and an interview with a top-shop inhabitant and restorer. All field visits were documented with notes and photographs.

Evidence regarding nineteenth century industrial home-based work and workhomes was gleaned from the original notebooks from Charles Booth's Survey of Poverty in London

³⁶ One Scottish example has been included, where an English equivalent was not found

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(1865-1903), held in the Booth archive at the London School of Economics. Maps of the period were studied, and a bicycle tour of the East End of London was made to visit buildings and photograph them. Local history archives provided many images of East End workhomes of the period. Visits to local nineteenth, and turn of the twentieth, century fire-stations and an interview with the curator of the Fire Service Museum in the London Borough of Southwark provided evidence of the practice of fire-fighters living above the fire-station. A literature review provided evidence of artists' studio-houses of the period. Extant buildings were visited.

The complexity of social change in the twentieth century posed a challenge. Tracing the social, political, economic and technical influences on home-based work in the twentieth century was too big a task for the scope of this thesis. As a result, a decision was taken to study three building types in which home-based work did not happen, as a way of tracing the forces that reduced home-based work from the dominant, to a less common, way of life. Architectural and social histories, and contemporaneous documents provided information on the three selected buildings. In addition two types of purpose-built twentieth century workplace are discussed and examples from the Modern Movement in architecture are touched on.

Methodology for the contemporary study

Fieldwork was carried out in order to investigate contemporary English home-based work, the spaces and buildings inhabited by the home-based workforce, and the impact this practice has on the individual, the family, the neighbourhood and society as a whole. A series of interviews was conducted with people working in home-based occupations, in the spaces they use as dwelling and workplace. A semi-structured, in-depth interview format was adopted, using a checklist of headings covering the areas of interest³⁷. There was a range of responses. Some participants enjoyed the process and talked at length, with ease (up to two and a half hours), others tended to give brief answers to particular questions (half an hour). This appeared to be more a function of personality and pressure of time than class, ethnicity or occupation, with examples of both responses found across a range of interviewees. Some participants were more articulate than others and as a consequence they tend to have a higher profile in the thesis. This may be inevitable in qualitative research. When the conversation waned, the checklist was consulted and any areas omitted followed-up. The only occasions on which the list was used as a formal set of questions was when the participant had limited time and/or was conducting

³⁷ See Appendix 7: Interview guidance notes

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the interview in a public place, such as a shop. In these cases the interviews tended to be more superficial. Permission to record each interview on a digital voice recorder was requested and never refused. These were transcribed at a later date. Notes were also taken during the interviews as a precautionary measure.

Participants were initially selected according to their occupation, with the assumption that this would generate the widest range of workhomes. This assumption was found only partially to be correct. It generated an excess of Victorian terraced houses, so participants were then sought according to the combined criteria of occupation, building type and period. The aim of the interview was to establish the nature of their occupation, the activities it involved and the equipment and services used, as well as the nature of the building/spaces and how they were used. In addition, it was to establish how the participant reflected on his/her working practice, the advantages and disadvantages they experienced in home-based work and their workhome, and their ideal building/spatial arrangement in relationship to their particular occupation/family circumstances. Visual evidence, including internal and external photographs and a measured survey (carried out using a laser measuring device and drawn-up using Vectorworks on return from the interview) was collected at the time of the interview. This enabled scaled plans to be drawn as a basis for a spatial analysis. A visual database was made, using Crowstep software³⁸, of the transcribed interviews, photographs and drawings, as a tool for analysis and a resource for future research.

A diverse range of participants was sought in terms of age, gender, care of dependants, socioeconomic background, ethnicity, occupation, industry, and the building type they inhabited (in terms of its period and form). The London Borough of Hackney (LBH) was initially chosen as the location because it had a lengthy history of home-based work and had been an innovative local authority with regard to 'live/work' development and planning regulation. It was also a Borough with a widely varied building stock³⁹, and a diverse population working in many different home-based occupations. In addition, there were practical advantages, including proximity to the university and the researcher's home, and a number of known social networks.

The original plan was to interview 150 people working at or from home or living at their workplace (and make a survey of their premises). The large sample size was generated by the range of selection criteria and need for diversity in the sample. However after

³⁸ See www.crowstep.co.uk

³⁹ See Appendix 9: types of building included in the study

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around 50 interviews and surveys, material began to be duplicated, indicating that the proposed sample was unnecessarily large. As the project developed, it also became apparent that rural and suburban home-based work might present different social, economic and physical forms from urban home-based work and, if one of the aims was to create typologies from which generally applicable principles might be extracted, there was a need to explore all three. Interviews were therefore extended to include home-based workers in a London suburb and a West Sussex village. A few participants were selected outside the three main locations if their interview and/or survey offered something to the study that was not available otherwise. A further incentive to broaden the field was the revocation of the London Borough of Hackney planning department's 'live/work' Supplementary Planning Guidance (SPG). In view of this, limitation of the sample to Hackney was unnecessary and undesirable. In the end 76 interviews and surveys were carried out.

Research ethics

Consideration was given to the research ethics that related to this project. Seiber (1992) isolated three ethical principles that he suggested should guide research on human subjects: beneficence, respect and justice. He translated these into six norms⁴⁰ that were followed in the design of this research project. Seiber's central premise is that it is easy to overlook the interests of research participants, that risk to the participants can occur in a) the research idea, b) the research process, c) the institutional setting of the research or d) the uses of the research findings, and are to be avoided. Two main, related, areas of risk to the participants in the fieldwork for this thesis were identified. The first concerned the research idea and the uses of the research findings, and the second concerned the research process.

There were times during this project when the risk to participants, embedded in the research idea itself, was thought to be too great and it was debated whether the project should proceed. The finding that most home-based workers were operating 'inconspicuously' to avoid the attentions of a number of public agencies led to concern about the potential consequences of the publication of this thesis. The perceived danger was that, rather than leading to a recognition of the extent of home-based work, followed by changes to policy to encourage the practice, publication might result in the tightening up of areas of taxation and planning legislation, making this working practice economically inviable. Similarly, the realisation that the 'everyday' workhome is a building type that has largely,

⁴⁰ a) valid research design, b) competence of researcher, c) identification of consequences, d) selection of subjects, e) voluntary informed consent, and f) compensation for injury,

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as yet, avoided commodification, (with the exception of the live/work unit which currently has an endangered future as a result of its immensely successful commodification), led to concern that publication might do more harm than good. It seemed clear, however, that taking into account the importance of non-censorship of knowledge, the responsibility of the researcher is to publish. The challenge would be to develop a sufficiently persuasive argument regarding the importance of home-based work and its associated building type to effect social progress in this area through the change of existing, or the development of new, regulations and/or legislation. At a minimum, the aim would be to prevent damaging legislation.

The risk to individual participants in the research process itself involved loss of privacy and/or anonymity in relationship to a number of public agencies, potentially endangering their livelihood. Initially consent was requested to reveal the individual identity of each participant and the location of each building in the study, but it swiftly became apparent that all identities needed to be concealed, as most participants were vulnerable to the authorities in some way or other. As an essentially architectural research project, the external image of the workhome was considered to be a crucial tool for understanding the form and context of the building in question. However external photographs were only taken with the participants' express consent. In a few cases no photographs were taken, because of the perceived threat.

Other ethical issues involved in the design of the overall research process concerned a) the selection of the buildings/inhabitants, b) the study of the spaces and c) the interview. This research has only been peripherally concerned with the controversy in the London Borough of Hackney over 'live/work' development. There 'live/work' Supplementary Planning Guidance was revoked in November 2006 primarily because of concern that 'live/work' buildings were being built in the place of affordable housing in Section 106 agreements, as well as being bought and sold as purely residential properties. In this context there were ethical issues involved in ascertaining which of the buildings/units with 'live/work' planning permission in Hackney were in use as combined workplace and dwelling, and in locating participants. In the case of one building, in which there was evidence of a high proportion of home-based workers, permission to interview was repeatedly refused by inhabitants because of the perceived threat from public agencies.

Following Seiber, there are a number of ways in which this project may have, or

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has already had, a positive outcome. Firstly, this thesis has the potential to make a contribution to the current body of architectural knowledge. It also has the potential to influence policy regarding the home-based worker and the workhome in a beneficial way. At the individual level, many of the architects and inhabitants of purpose built workhomes welcomed their buildings being included in such a study and most participants enjoyed the process. A number said that they felt it validated their lifestyles, the buildings they inhabited, and their 'work-selves'. All the participants in this project have been treated with respect, acknowledging both the personal nature of inviting a stranger into one's home and the sometimes intimate content of both the interview and the visual inspection. The idea of justice has permeated the project from the start. Home-based workers may be seen as a misunderstood and unsupported sector of the workforce. A central purpose to this research is to reveal this and to open pathways for the development of this underestimated way of life and its associated, but unacknowledged, building type.

The participants

This research conceptualises home-based work as a continuum from the poorest person making cardboard boxes for piece-rates on the sofa in their council house, to the wealthiest or most powerful person, such as the Queen or the Prime Minister, ruling or running the country from Buckingham Palace or Downing Street. As a result it set out to cover as wide a range as possible. Participants were found through community, professional, family and friendship networks. They were also found through non-governmental organisations, homeworking 'e-communities' and local authority departments. Some were 'cold-called'. Complex networks tended to lead from one home-based worker to another.

In general it was not difficult to find 'visible' home-based workers, such as architects and designers, shopkeepers and school caretakers, prepared to participate. It was more difficult to find participants in social housing or working in the informal sector. People in these two groups, outside the law in similar ways, were hard to find, and reluctant to participate. A number of strategies were used to ensure their inclusion in the sample. The use of gatekeepers had limited success. As a route into the Hackney Turkish and Kurdish communities⁴¹, it was ineffective. The communities were highly defended against such an intrusion. While it is true that their traditional home-based occupation, sewing, is now largely being carried out in less economically developed countries, the blanket assertion that no Turkish or Kurdish people worked at or from home any more was hard to believe, but had to be accepted. The offer of £10 for each interview acted as an inducement for

⁴¹ A friendly and well-known local shopkeeper, three Turkish and Kurdish community workers, and a Turkish ex-student were all approached as possible gatekeepers

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the participation of a number of people working in the informal sector and/or inhabiting social housing. A registered social landlord operated as a gatekeeper for one start-up business in social housing, in an affordable live/work unit. The National Group on Homeworking acted as gatekeeper to one traditional homeworker. London Borough of Hackney's published list of childminders enabled contact to be made with two childminders operating from social housing. One participant, an out-working manufacturer living on a council estate, kept her work secret from all except her employer, family and closest friends. She was certain that many similar occupations were being carried out behind the closed doors of her estate, and thought fear of discovery was such that not even the neighbours knew. In one case a prospective participant, a successful professional working in the creative industries, asked for a fee of £150 for being interviewed. This raised the ethical issue of whether all participants should be paid. It was decided that only participants at the lower end of the socioeconomic scale, especially those working in the informal sector or inhabiting social housing, would be offered an honorarium for the interview, as a token of good faith. In this context, clothing was bought from one participant in unspoken exchange for the interview.

Cold-calling was a successful strategy for finding participants⁴². A morning wandering the streets of a suburb as a result of a late cancellation of an interview, accosting strangers, revealed a hidden population of home-based workers, most of whom expressed interest in the research and were happy to participate⁴³. Community publications, such as the West Sussex village parish magazine and directory of local businesses, were also a useful means for contacting participants.

The interview data went through a number of analytical processes. They were transcribed as bullet point and quotations by theme, further themes being added as they emerged from the interviews. The material from all the interviews was then collated, and findings extracted by theme. The visual data also went through a stepped process of analysis. The plans were all drawn to the same scale (see Appendix 8) and converted into diagrams showing which spaces were used as 'living' spaces, which were used as 'working' spaces, and which were in dual-use. Circulation spaces were also identified. These were then organised according to visual patterns, creating a series of types, and reproduced at A4

⁴² A funeral director, two newsagents, the manager of a National Trust property, a photographer, two publicans, an illustrator, two childminders, a fish and chip shop proprietor, a garage proprietor, a market-gardener, a caterer, a bed and breakfast proprietor, a baker, an IT specialist, a baker, a nutritionalist, a florist, a rector, a residential care-worker, a graphic designer and a hairdresser were all contacted this way.

⁴³ The Point Topic survey (POINT TOPIC (2005) Broadband User Survey. found the highest concentration of home-based work in the 'London Suburbs' supergroup.

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by reducing the individual plans and arranging each type on an individual sheet, and finally re-presented as linear drawings (see fold out drawing nos 2, 3, 4, 5). Photographs were used both as visual reminders of the interview and the workhome, and as a means of communicating findings. They were also studied to extract further data about lifestyle and use of space.

Data sources

The following data sources resulted from each interview:

- A formal letter of consent⁴⁴
- A transcribed interview analysed through a series of headings⁴⁵.
- A measured survey of the building.
- Floor plans drawn at 1:200 in Vectorworks. These were drawn diagrammatically indicating relationship between, and function of, spaces, and position of entrances.
- Coloured block plans drawn at 1:200 on Vectorworks, showing usage of space.
- A photographic record of the interior and, where possible, the exterior of building.
- An entry into a database of workhomes. Separate visual databases were set up for the historic and fieldwork elements of the research.

Qualitative research

A qualitative approach was taken to this research. This was a flexible inquiry, in which every building was different and the design of the research developed as the study unfolded. Numerical and statistical material would have been less useful than fieldwork in which verbal material was gathered through interviews and visual material was generated through measured surveys and photographs. In this project, the context of the research was critical to the findings and an interview was considered to be a more appropriate way to collect data than a precoded questionnaire. As trends, relationships and possibilities were the desired outcome rather than absolute certainties in terms of regular distributions and patterns, a qualitative approach was considered most appropriate. The sample is on the large side for a qualitative research project because of the number of variables in building, internal spatial arrangement and people. Interviewing continued until saturation point was reached.

Chapter conclusion

In this chapter the range of research methods used in this thesis have been outlined and discussed. The strength of the overall research strategy lies in the mixture of methods

⁴⁴ See Appendix 6

⁴⁵ See Appendix 7

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that has been developed. The historical study involved the use of primary sources such as maps, medieval archaeological findings, archives and historic documents such as household books. It also involved visits to buildings and interviews, producing both verbal and visual data, as well as the study of works on the history of particular building types and historical periods. The contemporary study involved interviews with nearly 80 contemporary home-based workers in urban, suburban and rural contexts, and both measured and photographic surveys of their premises. The research ethics of the project have also been discussed here. While the principles of beneficence, respect and justice were embedded in the research strategy, issues arose over the protection of the privacy of the individual, and also the danger of publicising the extent to which current practice is 'inconspicuous'. Accepting the principle of non-censorship of knowledge, the decision to publish was taken with the aim of effecting social progress in this area through the change of existing, or the development of new, regulations and/or legislation. The use of many different forms of evidence, unifying historical and contemporary enquiry, has enabled the workhome to be examined from a number of different perspectives, over time.

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Chapter Three: A view of the past

'History, that is society in movement...' Keith Hart (2000 p30)

A primary objective of this research has been to establish the workhome as a building type, by documenting its continuous existence from the medieval period to the present day in England. To this end, studies have been made of four periods, medieval, proto-capitalist, nineteenth century/industrial and twentieth century/contemporary, in which major social, economic and technological changes took place in society that affected the practice of home-based work, and its associated building type the workhome.

Medieval workhomes

It is usual, in the twenty-first century, to make a clear distinction between a person's productive work and the other aspects of their life, their leisure pursuits, domestic and caring responsibilities or community involvement. In medieval England, however, no such differentiation existed. As members of self-sufficient and self-reproducing communities, most people's lives involved a combination of both productive and reproductive work, undifferentiated and indistinguishable, although the clearly defined class distinctions of the time determined quite different lifestyles for people according to their social status.

Peasants spent long hours at physically demanding work, cultivating the ground, tending animals, spinning wool, weaving and making clothing from the wool of their sheep, making leather from the hides of their cattle, preserving food for the winter months, cooking, cleaning and looking after their children⁴⁶. Some would go to work for the local lord as servants⁴⁷, living and working at the manor house at the cost of being separated from their families for most of the year.

The aristocratic lord of the manor and his family, by contrast, lived...

"...a life of comparative leisure and comfort because they drew their income from the work of the rest of society" (Hook, 1985 p27)

Their 'work' revolved around the maintenance of...

"...the honour, status, profit and well-being of the lord". (Woolgar, 1999 p9)

This involved demonstrating their status by maintaining an immense household, travelling with it around the countryside from property to property, and offering a great deal of hospitality (to both honoured guests and strangers) with much pomp and ceremony. While the lord was nominally in charge of the management of his estate, in reality, a

⁴⁶ Excavated fragments of spindles at the excavated site of the deserted medieval village of Wharram Percy show that wool was spun, and it can be assumed that at least some of the households worked a loom; needles, thimbles and scissors indicate the manufacture of clothing and shoes.

⁴⁷ The fortunate, the wealth of the noble household improved the lives of even its humblest members.

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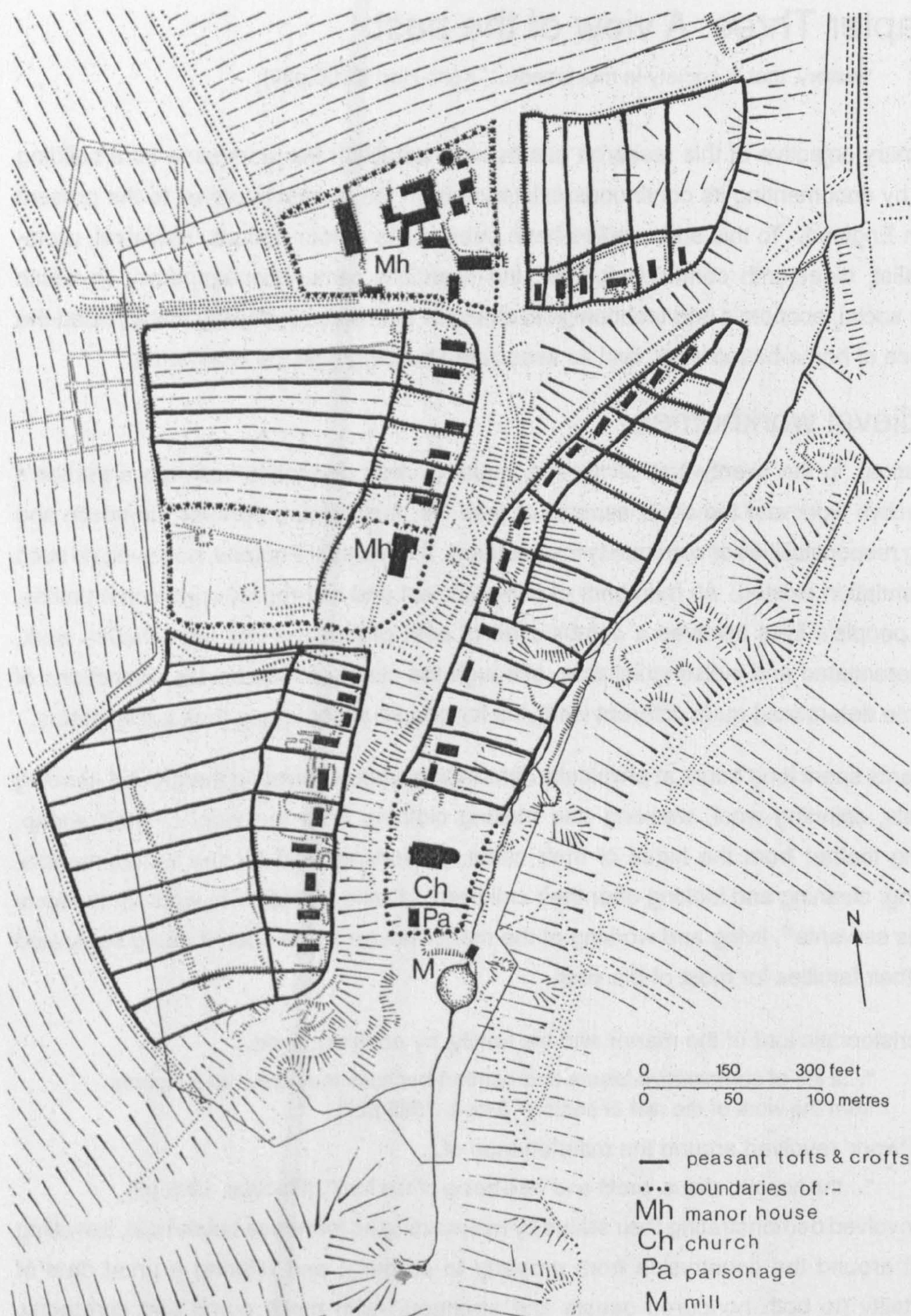


Figure 6: Plan of deserted medieval village at Wharram Percy

steward usually carried out this work. Every three weeks or so, the Manor Court would sit in the great hall of the manor house. The lord or his steward presided from the dais and all male tenants over the age of 12 were obliged to attend. This was a forum to determine rents, resolve inheritance issues, decide where cattle should be grazed and bracken cut, and to check the condition of dwellings and waterways. It also mediated disputes and punished offenders, controlled the quality of bread and ale, and even determined what occupation a son should follow or who a daughter should marry (Park, 2002). The lady of the manor was nominally in charge of the household, a job that involved the acquisition, preparation and storage of food, and the planning and cooking of meals for large numbers of people on a daily basis, the organisation of which was a complex task. Some were heavily involved in this work but others held a more symbolic position, with other strata of women carrying out the actual day-to-day running of the household, the members of which lived and worked together as a tightly organised and productive entity.

So, for both peasant and aristocrat, productive and reproductive work was generally indistinguishable, and most medieval accommodation reflected this. A snapshot of mid-fourteenth century life might include three typical houses, the peasant's longhouse, the manor house and the merchant's house. Each of these consisted of a simple series of spaces, either indeterminate, transforming spatially according to activity, time of day or night, season, or determinate, accommodating the separate functions of dwelling and workplace in distinct but adjacent spaces.

The longhouse⁴⁸ was home to the peasant family in areas of fourteenth century rural England where the climate determined that animals needed to be kept indoors at night and through the winter. Single-storied, built from local materials and consisting of a single open-plan space, it was inhabited by animals at one end and by humans at the other. Few of these buildings remain today, as they were poorly constructed⁴⁹, but archaeological excavations of medieval villages deserted in the Middle Ages⁵⁰ provide evidence of both the buildings and the lifestyle of their inhabitants. Maurice Beresford and John Hurst (1990a) discovered the remains of over 30 longhouses at such a village at Wharram Percy in Yorkshire, rectangular in plan and between 12 and 27m long by 4.5-6m wide (Chapelot and Fossier, 1985 p207) [fig 6]. These houses were set in rows with gardens

⁴⁸ For a discussion of the term 'longhouse' see MEIRION JONES, G. (1973) *The Long House*. *Medieval Archaeology*, Vol.17.

⁴⁹ Maurice Beresford recorded that "a 14 year old girl could easily load a wheelbarrow with the stones from a longhouse [local chalk], while it took two late-teenage Borstal-boys to shift a single stone from the manor house [sandstone and limestone brought from a distance]..."

⁵⁰ Often to make way for Enclosure.

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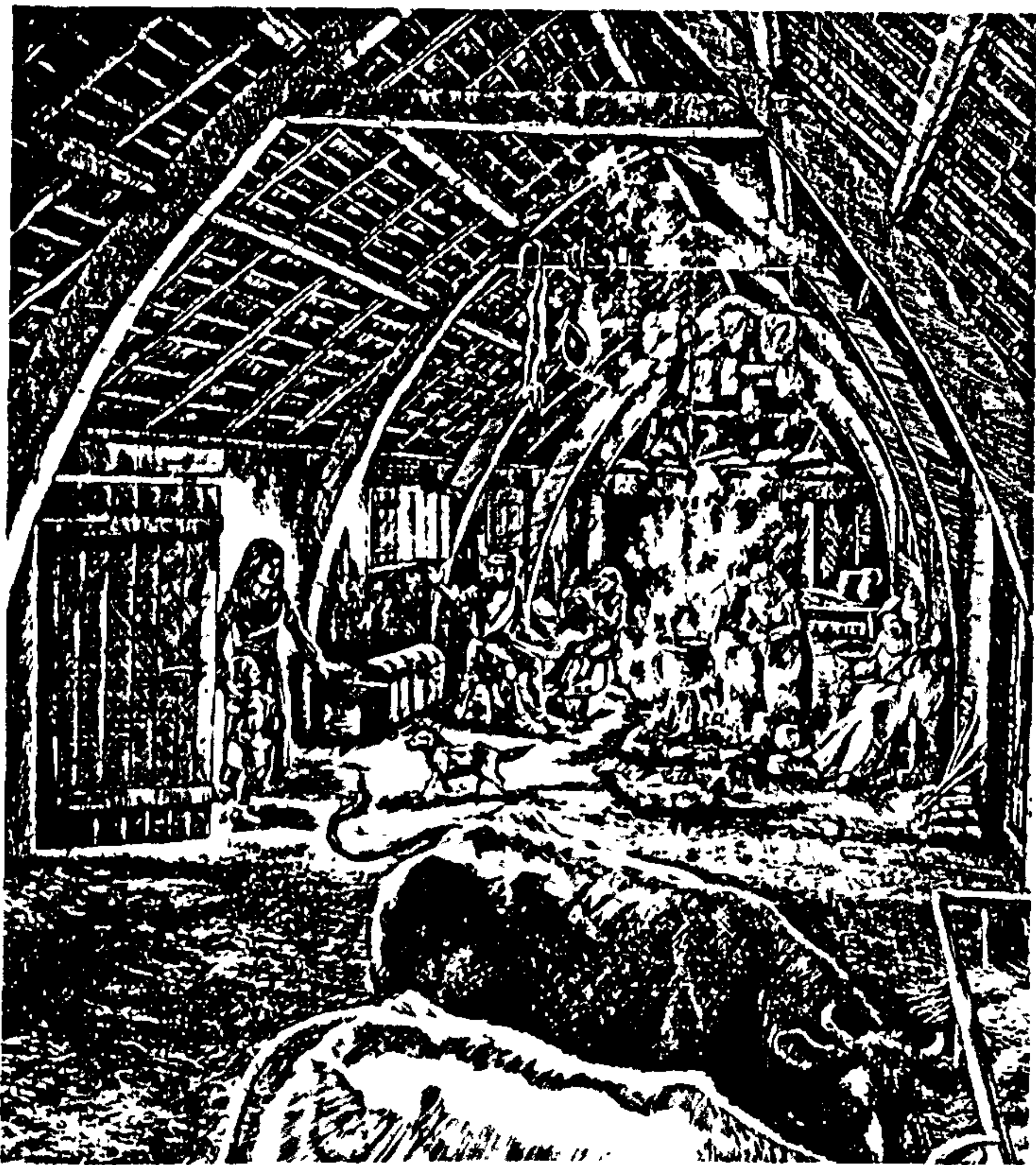


Figure 7: Medieval long house, interior reconstruction



Figure 8: Reconstruction of other activities in a medieval village

and yards behind them, grouped around two manors and leased from the local lords, rent paid in kind with produce from the peasants' harvest from working their own strips of land and a specified number of days worked on the lord's lands each year (Wrathmell, 1996). The drawing in fig 7, based on the results of these excavations, shows a reconstruction of daily life in a typical longhouse. The domestic part of the house had a hole in the roof above a central hearth to let the smoke out, and was only separated by a cross passage from the animals that lived in the lower end of the house. These were protected from predators and the extremes of cold weather by sharing the peasants' house. Their body-heat contributed to keeping the peasants warm. The house had an earth floor, simple doors and shuttered windows⁵¹, creating basic, draughty accommodation. The family owned few items of furniture, maybe some stools, a table, and straw mattresses to sleep on. The overall space combined the functions of kitchen and spinning/ weaving/ dressmaking workshop, bedroom and dairy, dining room, butchery, tannery and byre. All the activities we now classify as relating to 'life' and 'work', productive and reproductive, were carried out inside it or on the land surrounding it. In some houses the far end of the domestic accommodation was screened to form a store with a sleeping platform constructed at head-height.

The drawing in fig 8, a reconstruction of other activities in the medieval village, derived from the Wharram Percy study, suggests that much of the work in the fields, carried out by men, women and children, was organised collectively, creating a strong social element to their lives. Hard work would have been interspersed with plentiful Saints' days and holidays. These played a prominent part in the peasants' lives (Beresford and Hurst, 1990b p44)⁵². Despite a tough existence, it was one that involved a high degree of self-determination, within a particular social and spatial system. Apart from the structure imposed on their lives by the weather, the seasons and the rhythms of day and night, and the requirement both to attend the Manor Court and to work on the lord's lands as payment of rent, there appears to have been little external regulation of their time. Although living at subsistence level, these peasants would have had a large degree of personal autonomy, the care of children and preparation of food apparently woven seamlessly into their day's activities.

The medieval gentry lived in castles or manor houses that were similarly undifferentiated, 'work' and 'life' being carried out throughout their great halls and adjoining chambers,

⁵¹ Door and window fittings were found during the excavations.

⁵² Fragments of bone flutes, dice and Nine Men's Morris are evidence of music and games, although whether only as an evening or a holiday activity is not clear.

The workhome... a new building type?

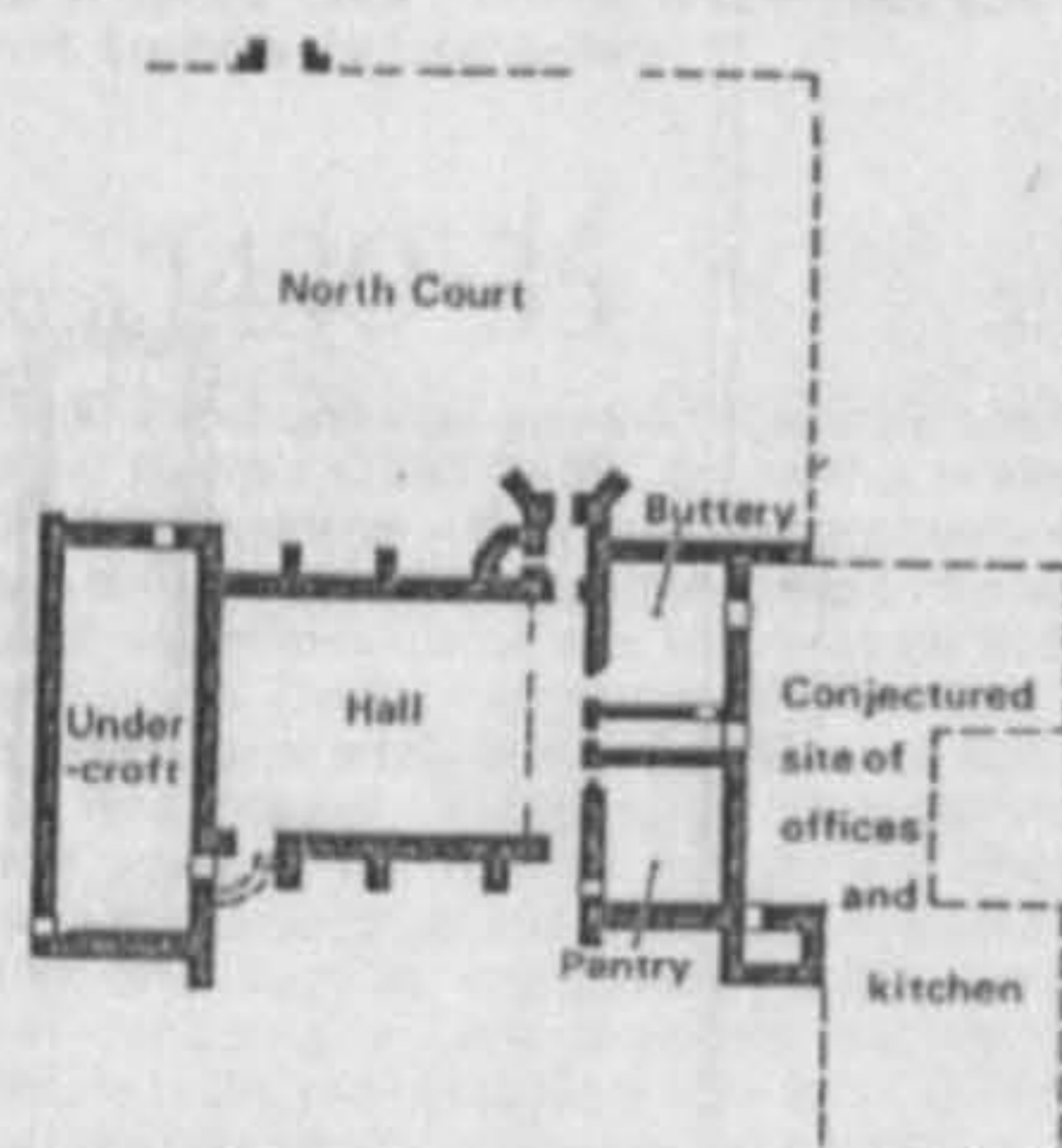
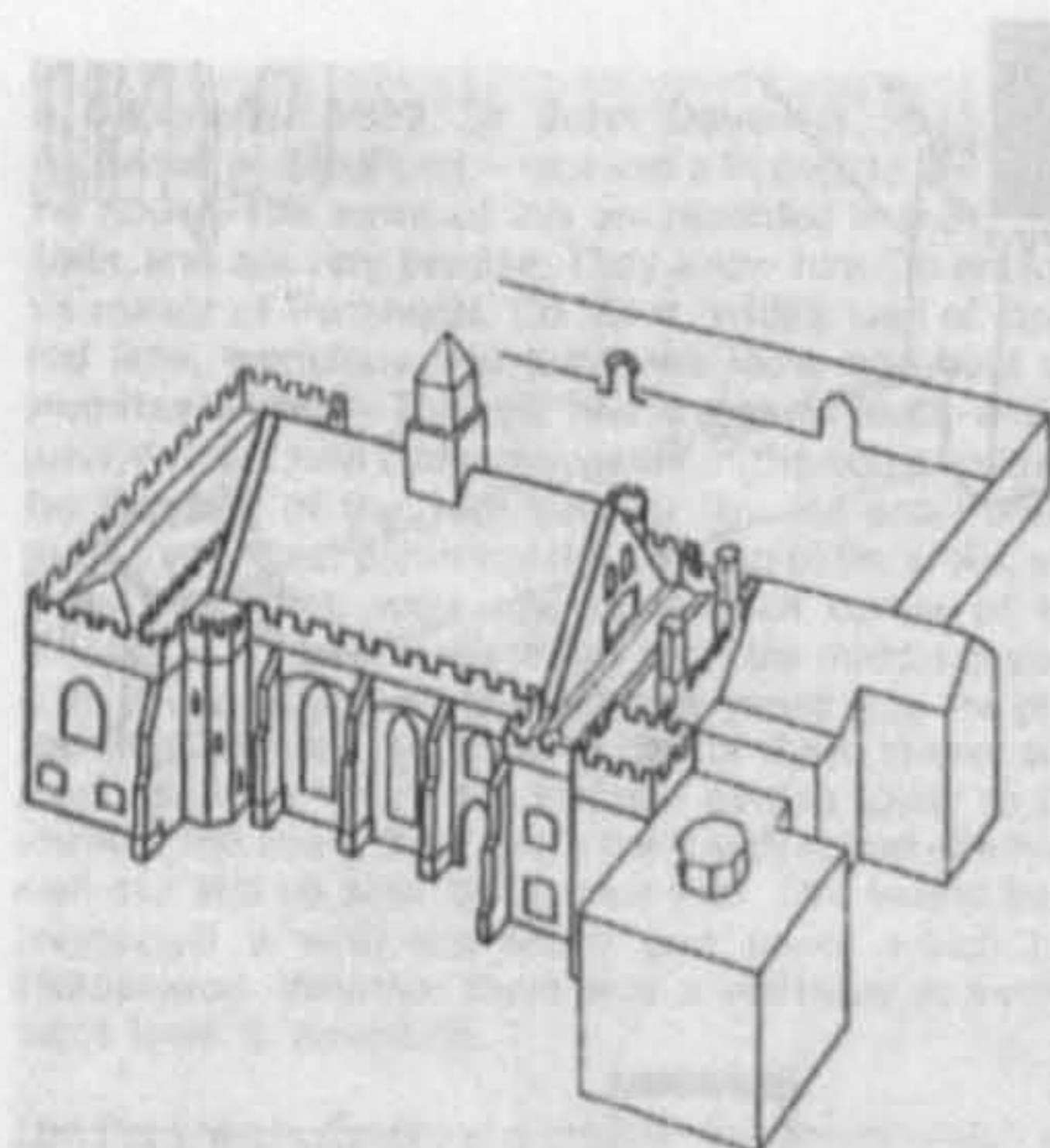


Figure 9: Plan of Penshurst Place, Kent (1338-49)

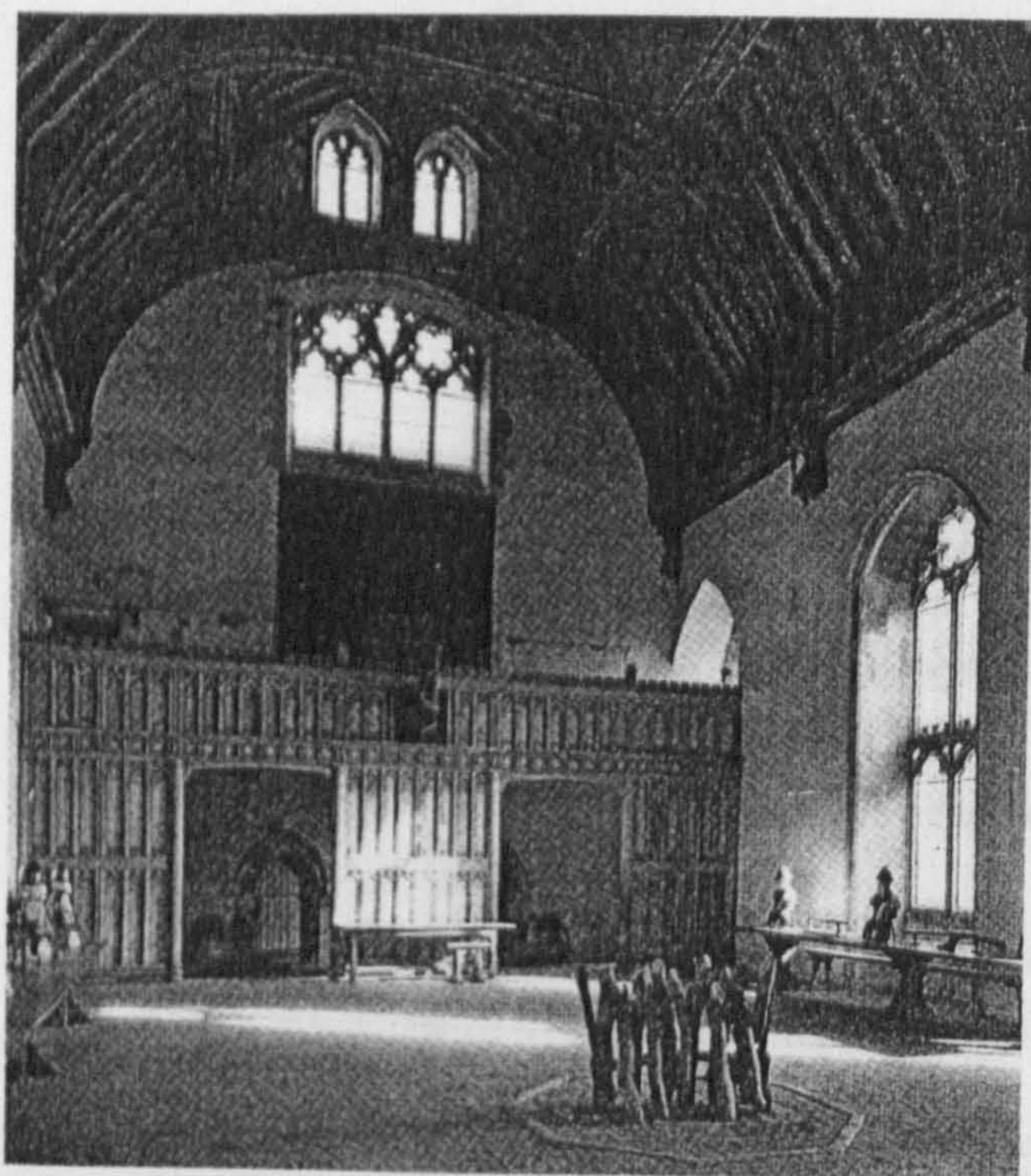


Figure 10: Interior of Hall, Penshurst Place

cottages, outbuildings and fields. Although often extensive and built from expensive materials, the fourteenth century manor house was a simple building, and the complex functions of the noble household took place in a few indeterminate spaces. Penshurst Place, in Kent, provides a useful example. While it has been in continuous use since its construction between 1338-49, and therefore cannot yield evidence of the medieval lifestyle in the way the excavation of a deserted site may, centuries of extensions and alterations have left the original manor house remarkably unaltered.

This house is arranged according to the standard 'H' plan of the time [fig 9], the Hall sandwiched between two, two-storey wings that contain a series of smaller spaces. With stone walls, traceried windows and a chestnut king-post trussed roof, the immense central double-height space⁵³ [fig10] has a raised dais at the Western end, behind which a small winding stair leads to the Solar⁵⁴. This is a large first floor chamber to which the lord and his family 'withdrew' in order to relax, sleep and pray, with a secondary chamber underneath it. The Eastern wing contains a series of service spaces, accessed through arched doorways off the Hall, including a pantry and buttery where food and drinks were stored and served. A passageway led to the kitchen, positioned away from the main building because food was cooked over large open fires.

A survey, or 'extent', carried out in 1341 for the manor of Rothwell, in Yorkshire, listed the following:

"...hall, chapel, chambers, kitchen, bakehouse, brewery, barn, oxstalls, stables, and other houses necessary for the residence of the lord, built and enclosed with stone walls, the site of which, with easements to the house, the herbage, garden fruit... Also there is a cottage called the Smyth, within the garden of the grange... Also there are two water mills..." (Wrathmell, 2003).

No similar survey is readily available for Penshurst, but, as Marcus Binney observed in the first of his three articles for *Country Life* on Penshurst:

"Such an establishment must clearly have demanded a considerable number of out-buildings, stables, offices and lodgings..." (Binney, 1972)

All such ancillary buildings of the time, together with artefacts that might have given clues into the lifestyle of the period, have been destroyed. However it is possible to imagine the extent of Penshurst by referring to excavations of the, albeit much humbler, North Manor at Wharram Percy. The lack of disturbance to Wharram Percy's earthworks since its desertion around 1500 has left evidence of the exact positioning of these ancillary buildings around the central hall which, despite the lack of full excavations, aid the

⁵³ 19x12m and 18.3m high to the apex of the roof

⁵⁴ So named as it was a room that traditionally had long windows on three sides and was therefore flooded with light.

The workhome... a new building type?

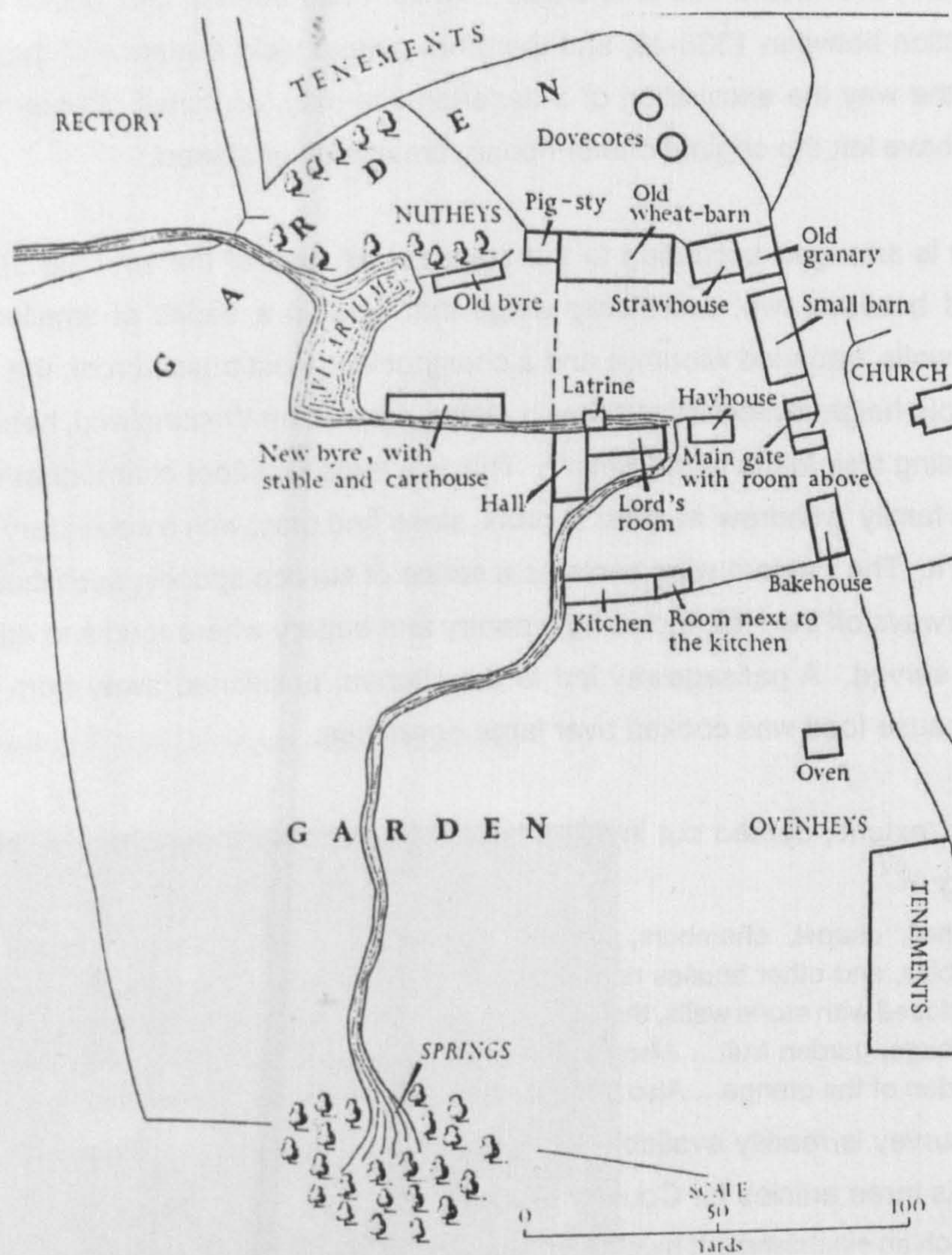


Figure 11: Conjectural plan of Cuxham c1315

visualisation of the lifestyle of its inhabitants. A series of buildings was arranged around two gated courtyards [fig 6], between which, the central block containing the hall, Solar and service block, was sandwiched. A building that is thought to have contained the steward's accommodation and the stables guarded the entrance to the main courtyard. The kitchen, again separated from the hall because of the risk of fire, was linked to the bake-house and brewery by waist-high ovens. A collection of further buildings included barns, a dovecote, a grain-drying kiln and a watermill. A similar arrangement can be seen at Cuxham, Oxfordshire [fig 11].

In the fifteenth century, various Dukes of Buckingham inhabited Penshurst intermittently, moving with their immense households between their properties, which included castles at Maxstoke, Writtle, Tonbridge and Thornbury and the manor house at Penshurst. As a powerful and wealthy family, evidence of a different sort to that available at Wharram Percy remains which, when read together with the building itself, gives an insight into the daily life of the time and the way the building was inhabited. This evidence takes the form of the Stafford household-book, in which a record was made of the number of people eating at each meal and their social status, and an account of the money spent each day by the noble household. These excerpts, translated from the Latin by Gage (1834), cover the year 1507-8⁵⁵. While they do not directly relate to Penshurst, (they are of the household of the third Duke of Buckingham at Thornbury Castle), they give a useful indication of the likely contemporaneous lifestyle at Penshurst.

Gage suggests some 299 people sat down to dinner on Christmas day, 1507, of whom 192 were strangers, with 63 people making the journey to London, of whom 20 were gentry, and 14 were upper, and 29 lower, servants⁵⁶. Such households lived collectively, eating and sleeping together in the Hall, with the exception of the noble family and their attendants who slept in the Solar. Dinner would have been at midday and supper at five pm, eaten in the body of the Hall. The lord, his family and the most important guests would sit at the 'high' table on the raised dais, looking down on the 'lesser' diners sitting

⁵⁵ There is no consensus about what constitutes 'medieval'. The Concise Oxford English dictionary defines medieval as Middle Ages, and Middle Ages as 1000-1453. On the Web it is defined variously as "the period prior to the Renaissance", 500-1500, 500-1450, 410-1492 or 800-1600.

⁵⁶ The few female members of the household included the lord's wife and daughters, their attendants, the children's nurses and the washerwomen; in a similar household of the time, the proportion of women to men was nine to one hundred and sixty-six (Northumberland Household Book ed. Thomas Percy (London 1770), quoted Girouard M., (1978) p26). Men carried out all the other work of the household, including the cooking and cleaning (Girouard M., (1978) p26); in 1296 Joan de Valence had only one female servant, a washerwoman, out of a total of eighty-five in her household at Goodrich Castle. While nobility married very young, girls from twelve and boys from fourteen, servants were often in their mid-twenties before they married and when married they were expected to live apart from their spouses and children. It was only later in the sixteenth century, when this peripatetic lifestyle was replaced by a more settled one, that the servants' womenfolk and children became an accepted part of the noble household (Woolgar, 1999).

The workhome... a new building type?

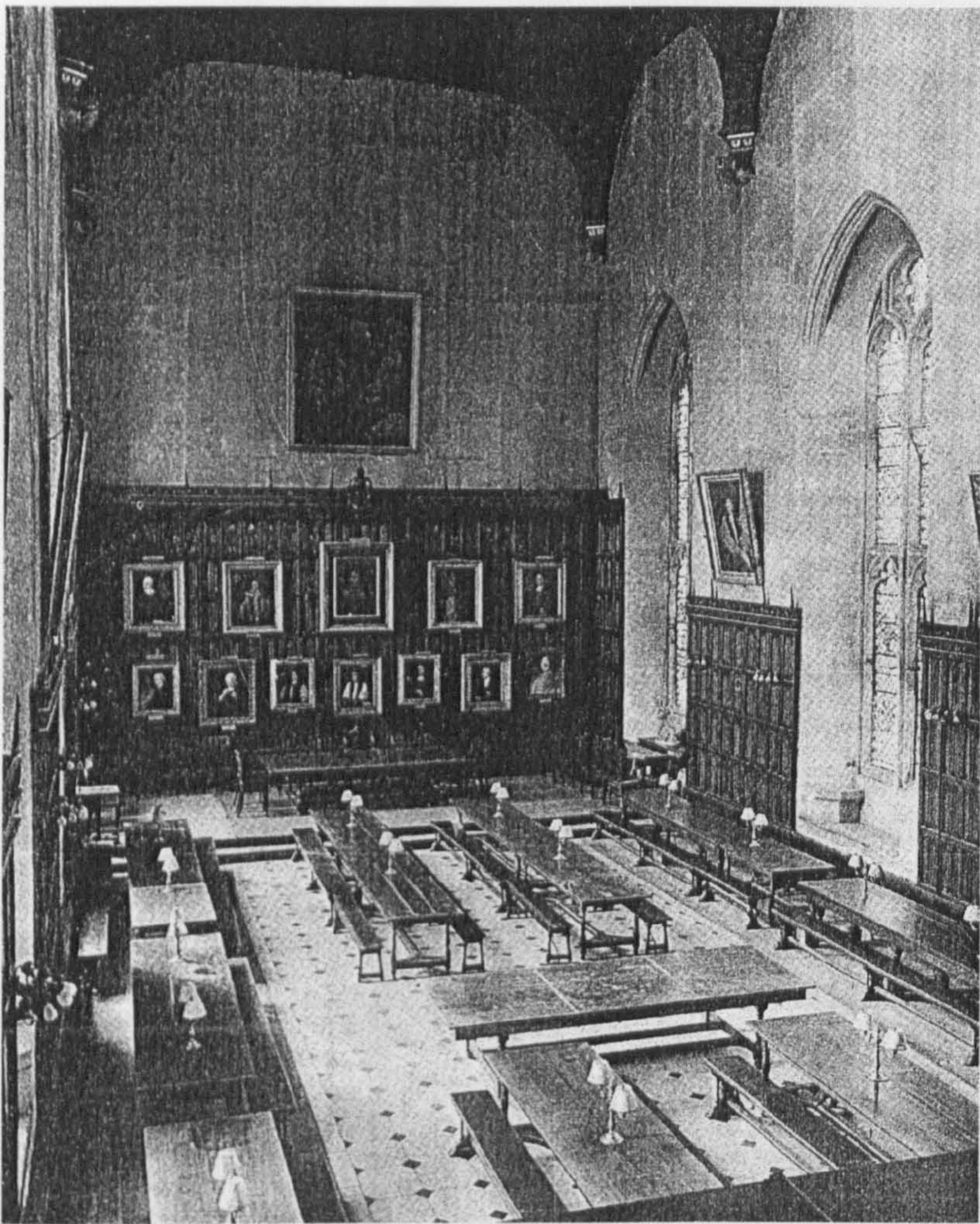


Figure 12: Hall, New College, Oxford

at the 'low' tables in the body of the hall. A similar arrangement persists in the halls of the colleges at Oxford and Cambridge University [fig 12]. Feasting and entertainment were a central aspect of medieval life, meals being served with immense pomp and circumstance. At such feasts the size of the household at Penshurst might have increased to that recorded at Thornbury at Epiphany in 1508, where 519 people, including 319 guests, dined for lunch and 400 for supper. The list of foods purchased for this event indicates both the scale and splendour of such a feast. The two meals included:

"...from the lord's store: 36 rounds of beef, 12 carcasses of mutton, two calves, four pigs, one dry ling, two salt cods, two hard fish, one salt sturgeon. In achats [ie purchased]: three swans, six geese, six suckling pigs, ten capons, one lamb, two peacocks, two herons, 22 rabbits, 18 chickens, nine mallards, 23 widgeons, 18 teals, 16 woodcocks, 20 snipes, nine dozen great birds, six dozen little birds, three dozen larks, nine quails, half a fresh salmon, one fresh cod, four dog fish, two tench, seven little breams, half a fresh conger, 21 little roaches, six large fresh eels, ten little whittings, 17 flounders, 100 lampreys, 400 eggs, 24 dishes of butter, 15 flagons of milk, three flagons of cream, and 200 oysters. Together with 678 loaves of bread, 33 bottles and 13 and a half pitchers of wine and 259 flagons of ale [20 of which were drunk by the gentry for breakfast...]" (Woolgar, 1999 p28)

The work involved in the production of such feasts is immense. Armies of peasants must have worked in the fields to provide the basic ingredients and swarms of servants in the kitchens to prepare the meals, in winter starting well before dawn in order to have the dinner ready by noon. Brewing and baking, on an immense scale, must have been a continuous process. After meals, the tables, which consisted of long wooden boards on trestles, were carried outside, swilled down with water and left propped up to drain (Penshurst Place visitors' guide, 2001). Only the gentry ate breakfast, which was served in their private chambers (Hosking, 1994), although it is noted that the household bear at Thornbury was also allocated two loaves of bread for breakfast!

In the evening the gentry 'withdrew' to their more salubrious private quarters, a mark of status and honour, not of modesty (Hosking, 1994 p50), and the servants slept on the rush-covered floor around the fire in the Hall. Some, such as grooms and kitchen boys, may have slept in their workrooms, as they did at Caister Castle. There, an inventory of around 1431 showed that

"...some servants were accommodated in their offices; in the bakehouse there was a mattress, blanket, sheet and coverlet; grooms slept in the stable; sumpterman's stable was endowed with bedding; gardener's chamber had two mattresses, two bolsters, one pair of sheets, two blankets, one old carpet, three coverings or coverlets and a celure (worn) of blue " (Falstof Paper 43, Magdalen College Oxford, quoted by Hosking, 1994 p63),

The Solar contained one large bed, underneath which additional smaller truckle beds

The workhome... a new building type?

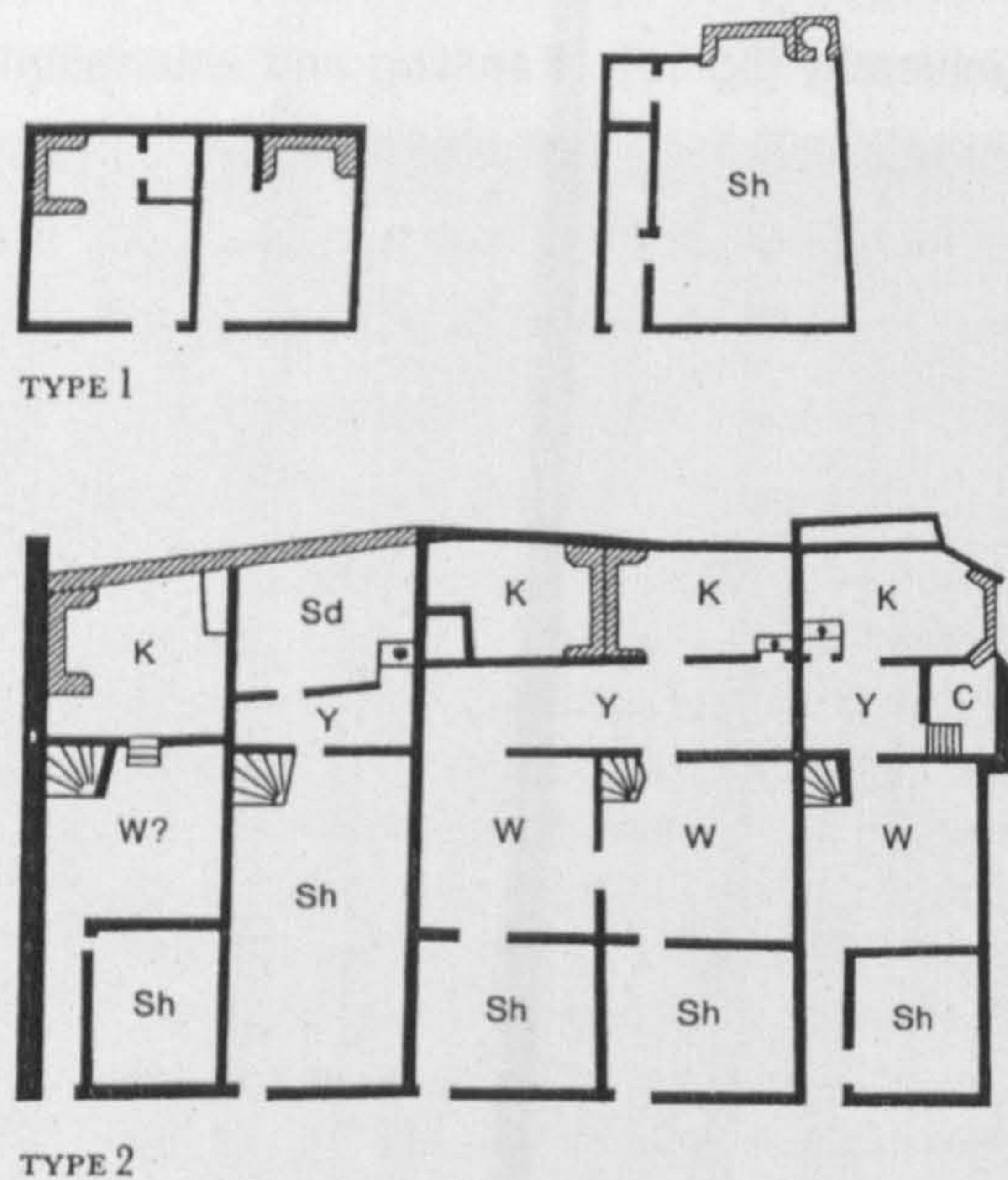


Figure 13: Ralph Treswell 'Types 1 & 2'

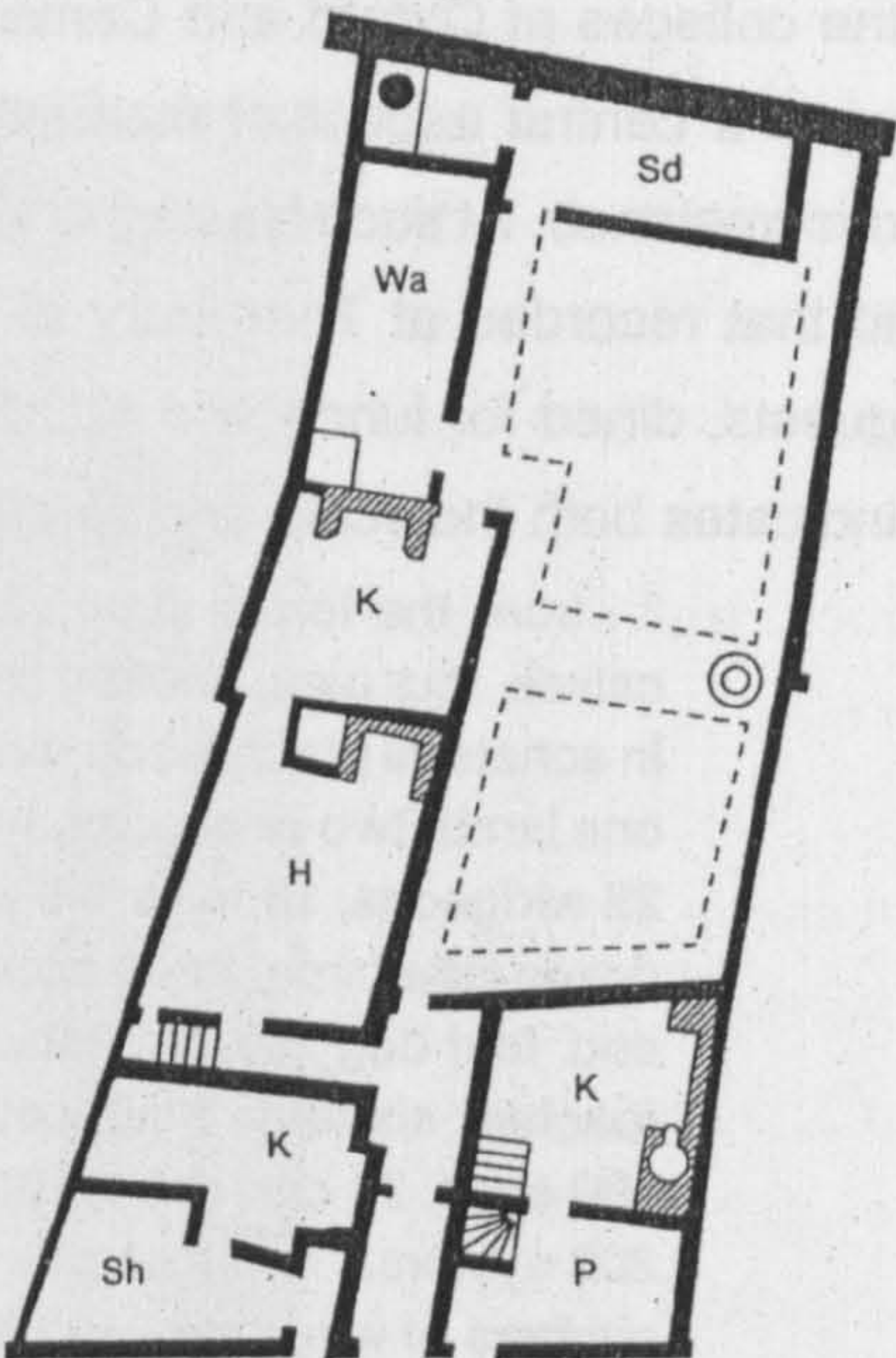


Figure 14: Ralph Treswell 'Type 3'

KEY TO FIGURES 2 AND 3

C	Cellar	Sh	Shop
Ch	Chamber	St	Study
H	Hall	W	Warehouse
K	Kitchen	Wa	Waterhouse
P	Parlour	Y	yard
Sd	Shed		

were stored during the day. Clothes were kept in a chest and on a pole sticking out from the wall and tapestries hung on the walls, and curtains around the bed, helped to keep out draughts (Hosking, 1994 p63). This chamber was also used as a 'withdrawing room' for the women, to which they could retreat from the hubbub of the Hall. A spy hole allowed them to observe what was going on in the hall below⁵⁷. The noble family prayed in the Solar, religion being an important aspect of medieval life, until the nearby church was built, separating religion from the other aspects of the life of the household⁵⁸. The room below the Solar was for the use of other high-status members of the household and their servants.

A series of surveys of buildings in London, made by the painter-stainer Ralph Treswell⁵⁹ in 1607-12 (Schofield, 1987), give a rare indication of the urban topography of the time, much of London having been burned to the ground in the Great Fire in 1666. Many of the houses surveyed were medieval in layout, crammed together in tenements. Even the smallest ones included a traditional hall, usually positioned on the first floor overlooking the street, [fig 13], above the shop or workshop and warehouse. In larger houses, [fig 14], the hall was positioned on the ground floor to the side of, or at the back of, a courtyard. These tended also to have a separate parlour, fulfilling the function of the lord's Solar in the manor house, a private room for the family. The smaller houses had a single entrance off the street into the shop and a single stair from the shop up to the hall and the bedrooms above. Food was prepared in a kitchen positioned, in the smaller houses, in a separate building across the back yard, and carried up to the first floor hall for consumption. A consistent aspect to the planning of these houses was that the ground floor workspace, whether shop, workshop, inn, bake-house or whatever, remained integrated with the living accommodation.

The merchant's house is a further example of a medieval dwelling where domestic life was inextricably entwined with 'work', in this case the business of trade. Clustered together on the streets of the market town, the individual trades-people inhabited houses in which they made, stored, and sold their goods [fig 15]. The merchant's house at 58, French St, Southampton is maybe the most complete medieval townhouse surviving in England (Platt et al., 1975 p107). Built in the last quarter of the thirteenth century it gives an insight into the life of the merchant of the time. The shop, entered from the street, had a shutter. Folded up at night to give protection from both theft and bad weather,

⁵⁷ Binney questions whether this was a fourteenth century feature or a later addition.

⁵⁸ Original registers of the church of St John the Baptist at Penshurst date back to 1558.

⁵⁹ The surveys were carried out for Christ's Hospital and the Clothworker's Company, probably as lease plans.

The workhome... a new building type?

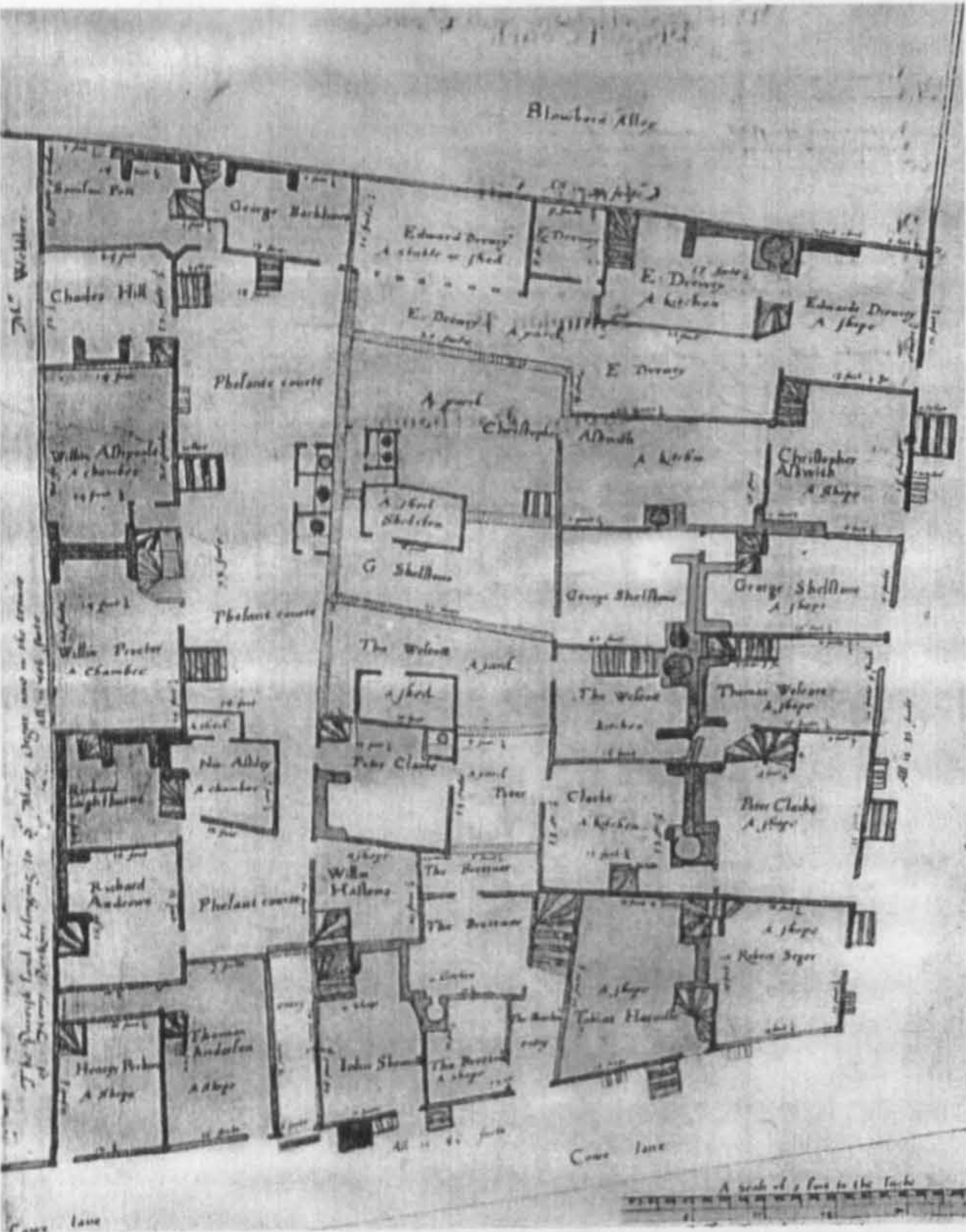
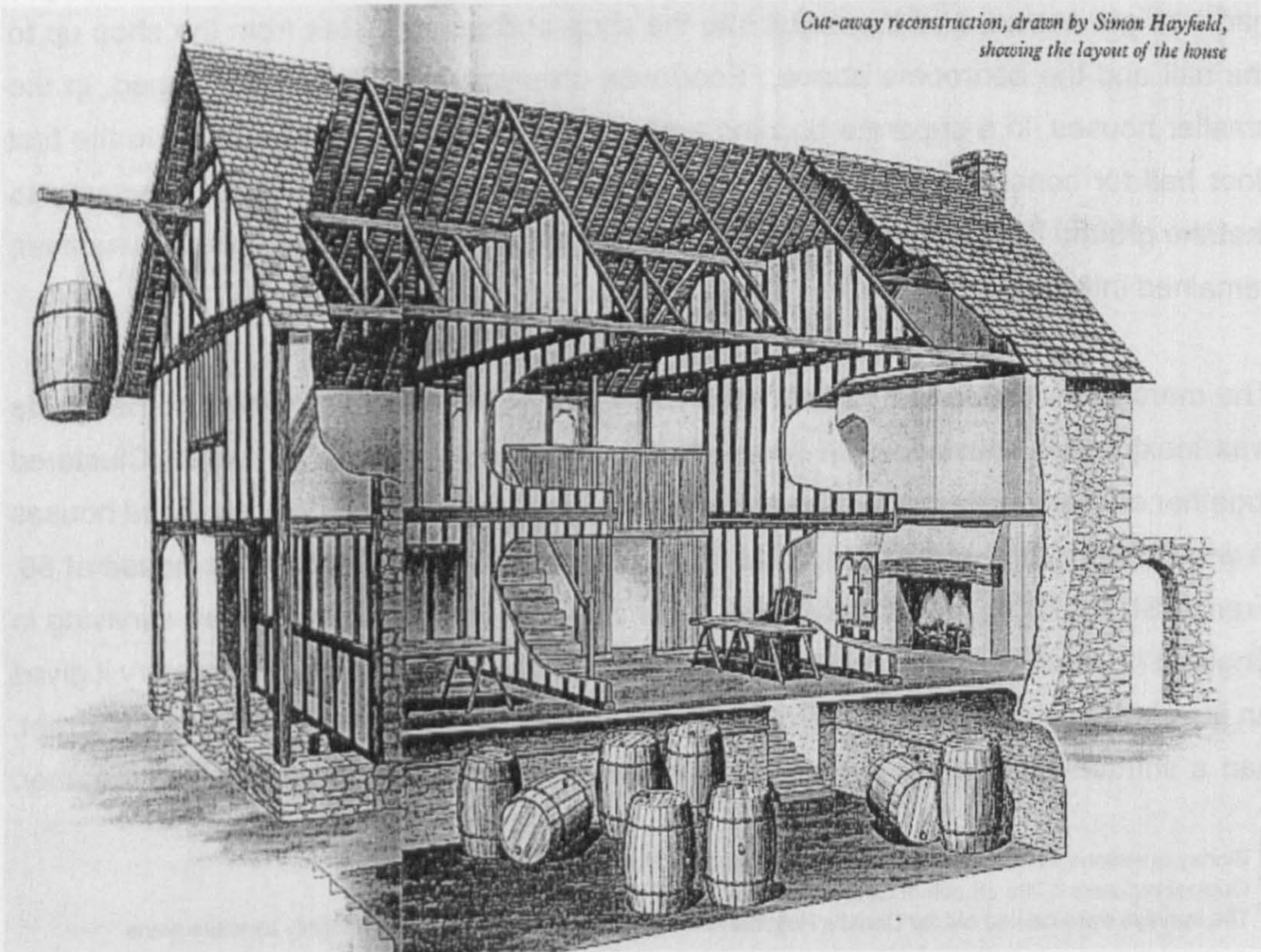


Figure 15: Ralph Treswell plan of Cow Lane, London

Figure 16: Merchant's House, 58 French St Southampton cutaway drawing



it was folded down when the shop was open to provide a counter on which goods (in this case wine) were displayed, and across which customers could be served [fig 16]. Beneath the shop was an under-croft, in which stock was stored. The central, double height hall was a public space, again with smaller rooms arranged on two levels at either end, which was entered through a passage alongside the shop. This was a social space where meals were eaten and where customers would be entertained prior to making a purchase. The lower room at the far end of the hall, heated by a large fire, may have been used by the merchant as his 'counting-house', or as a space where he made his more important deals (Platt et al., 1975 p106). There were also two 'bed-chambers' on the upper floor where the merchant and his family slept, the only truly private rooms. A yard behind the house contained a detached kitchen, rubbish pits and a separate latrine tower built over a substantial pit, with access from both floors. Accommodation for both trading and family life, public and private, were integrated in this house in a way that is generally unfamiliar in the twenty-first century in Britain. The closest parallel today is the East London corner-shop, often run by an immigrant family, in which the elders may be seen sitting in the shop, drinking tea or eating a meal that has been prepared in the flat or maisonette above, although this is seen increasingly less frequently.

There are, however, some fourteenth century examples of the spatial separation of 'work' from the other activities of 'life'. These tended to include premises that accommodated large and potentially dangerous pieces of equipment or processes, such as milling and blacksmithing. The miller lived in a cottage adjacent to the watermill⁶⁰ (which was owned by the lord of the manor, who charged his peasants to have their corn ground into flour). Similarly the blacksmith lived next door to his forge. It may be argued that both the conceptual separation of work and the concept of manufacture started here.

While it was the norm in the Middle Ages for productive work to be carried out in the home or in buildings adjacent to the home, there are exceptions to this, trade being the primary example. Although urban craftspeople and merchants sold their goods from their homes, trade also centred on fairs and markets to which both traders and customers travelled. The dominant mode of transport of the time was by foot, only the fortunate few having the use of a horse and maybe a cart or carriage. Either way, travelling was a slow, laborious and often dangerous business and, as a consequence, journeys were only made if unavoidable, except in the case of the lord and his household, in which case they were made, in part, as a demonstration of his wealth and power. This

⁶⁰ 5,624 watermills in 3,000 locations were listed in the Domesday survey of England, 1080-86, but no windmills, which were a later invention.

The workhome... a new building type?

reinforced the tendency for the houses of medieval cities to be tightly packed so that everything was within walking distance, and for productive and non-productive work to be undifferentiated, conceptually and spatially. Rural settlements tended to be more dispersed, but were also built so all buildings were within walking distance.

This study of the physical form and social history of three common medieval houses, the longhouse, the manor house and the merchant's house, shows them to be buildings that combined dwelling and workplace. Home-based work was the dominant social and physical form of medieval England, the functions of 'work' and 'home' being largely undifferentiated, both socially and spatially, despite some examples of physical separation between the two. These houses appear to be the forebears of many contemporary live/work units, a point which is returned to in Chapter Seven. Having investigated the medieval workhome, we now move on to the proto-capitalist practice of home-based work and its associated buildings.

Proto-capitalist 'workhomes'

Social and economic developments affected the form of the workhome. George Eliot draws a compelling picture of a proto-capitalist home-based rural linen weaver, Silas Marner, at the turn of the nineteenth century (1861). Pallid and stooped from working indoors 16 hours a day over his loom, Marner lived alone for many years, his single-roomed stone cottage containing nothing more than a bed, a table, three chairs and his loom, with a brick hearth for heating and cooking. His cottage, while functioning as both workplace and dwelling, was primarily a working environment. Exiled from his own small town community, he worked obsessively, his lonely life reduced...

"...to the unquestioning activity of a spinning insect..." (1861 p14)

...revolving around his loom and essential trips out to collect materials and deliver completed goods. Living frugally, his earnings from these long working days were far higher than was necessary to cover his daily needs, and his major pleasure, before the arrival of his adoptive daughter Eppie, was the gold and silver he was paid for his work, which he kept buried in a hole in the brick floor under his loom and counted every day. Once he was caring for the child, a situation that caused some consternation with his local community but was clearly not beyond the bounds of possibility, the pattern of his life changed:

"And while the sunshine grew strong and lasting, so that the buttercups were thick in the meadows, Silas might be seen in the sunny mid-day, or in the late afternoon when the shadows were lengthening under the hedgerows, strolling with uncovered head to carry Eppie beyond the stone-pits to where the flowers grew, till they reached some favourite bank where he could sit

The workhome... a new building type?

down, while Eppie toddled to pluck the flowers, and make remarks to the winged things that murmured happily above the bright petals, calling 'Dad-dad's' attention continually by bringing him the flowers." (1861 p109)

He earned enough to keep them both even though he had reduced the hours he worked every day substantially in order to look after the child. With help from the local squire he extended his cottage to make a separate bedroom, but continued to work at his loom in the living room, so that he could combine his productive and caring work.

Eliot sets a scene in which 'work' and 'life', including caring, were undifferentiated in a way that was common in proto-capitalist England⁶¹, most people continuing to work from their homes, interweaving the productive and reproductive aspects of their lives. However, as a result of changes in the organisation of production and the social division of labour, the relationship between 'work' and 'life' gradually shifted. Waged employment became more widespread after fourteenth century epidemics of the plague decimated the population of England, resulting in a shortage of labour. It increased further when land came under pressure as a result of both Enclosure⁶² and the population of England and Wales doubling between 1500 and 1750⁶³. The loss of their common lands, the introduction of the 'putting-out' system⁶⁴ and a developing appetite for goods from the market, meant that many people were less able to produce what they needed for themselves. As a result, many families combined employment in some form of manufacture under the new mode of production while continuing to keep livestock and work a small patch of land in order to produce food for their own consumption. New degrees of social stratification developed, as the extraction of surplus value by employers resulted in employees having to work longer hours in order to achieve the same standard of living. In addition, the 'masters' often operated a system of bonded labour, tying their workers to them on very low rates of pay either by renting out the machines that were necessary for the production of the goods or by loaning their workers the money to purchase their own machines at a rate of interest that made it almost impossible for the debt to be paid off. The social division of labour between employer and producer became entrenched, sons following their fathers to become masters while their workers were trapped in a cycle of poverty and debt, unable to assemble the capital necessary to become masters themselves.

⁶¹ Marner worked directly for his customers, collecting the flax yarn himself and delivering the goods on completion, rather than this being carried out by a master or merchant middle-man.

⁶² Some 7 million acres of land were enclosed by over 5000 Acts of Parliament between 1767 and 1867... see The Open Spaces Society website.

⁶³ From 2.5m to 6.25m

⁶⁴ In which merchants and master-craftsmen distributed raw materials to people engaged in craft-based manufacture in their own homes, paying 'by the piece' on goods that, once completed, were collected from their producers and sold for a profit, increasing the accumulated capital of the merchant or master changed the relationship of the former peasants to their work.

The workhome... a new building type?

A distinction emerged between money-earning work and that which contributed to the household economy in other ways, the former being given the greater status. There was a gradual acceptance that it was preferable for women not to have to work for money, and wherever it was economically possible they were restricted to tending the household and children. This became a symbol of social status and although most people continued to 'work' from their homes, this re-definition of the household's work led to a spatial reorganisation of the dwelling. While medieval houses generally consisted of few, simple, multi-purpose spaces, over time these were replaced by houses with smaller, functionally differentiated spaces in which waged work was separated from the other aspects of daily life. A few simple developments in building technology contributed to these changes. The invention of the fireplace and hearth with a chimney meant that every room could be heated individually, enabling different activities to take place simultaneously in separate rooms in the house, and developments in glassmaking technology reduced the price of glass and enabled even modest rural cottages to have large glazed openings, opening new avenues for home-based work in specially designed workrooms. However, as all the spaces remained within a single house or its curtilage, the realms of productive and reproductive work continued to be interwoven.

Daniel Defoe, in his 'Tour though Britain' paints a picture of life in Britain that suggests a large proportion of the early eighteenth century rural English population worked from home, engaged in the textile industry in isolated cottages and villages:

"Among the manufacturers' houses are likewise scattered an infinite number of cottages or small dwellings, in which dwell the workmen which are employed, the women and children of whom are always busy in work such as carding or spinning so that no hands being unemployed, all can gain their bread, even from the youngest to the ancient, hardly anything above four years old but its hands are sufficient to itself. This is the reason why we saw so few people without doors; but if we knocked at the door of the master manufacturer, we presently saw a house full of lusty fellows, some at the dye-fat, some dressing the cloths, some at the loom, some one thing, some another, all hard at work and full employed upon the manufacture and all seeming to have sufficient business." (1727 p195)

In the 1940's Francis Steer, a senior assistant archivist working "wholly outside his normal duties" (1950 p1) in the Essex Records Office, made a transcription of a recently discovered chest-load of seventeenth and eighteenth century inventories of the belongings of several hundred inhabitants of the villages of Writtle and Roxwell, near Chelmsford, in Essex, at the time of their deaths. Such manuscripts are a source of evidence of buildings in which people both 'worked' and 'lived', as they list the occupation of the

The workhome... a new building type?

deceased and the contents of their house room by room, providing detailed evidence of the social and spatial organisation of the time. Although there are no photographs, plans of buildings or even addresses to accompany the inventories, the naming of rooms assists an understanding of the relationships between spaces and their uses.

Most of the subjects were small farmers, the occupations of the rest covering the necessities of life: mason, bricklayer, labourer, sawyer, carpenter, blacksmith, weaver, tanner, glover, tailor, barber surgeon, miller, baker, victualler, grocer, grocer and draper, butcher, inn-holder and gardener. Their houses ranged from single-roomed buildings to 22-roomed mansions, most commonly having between four and eight rooms at least one of which was allocated as a workspace. This indicated that while 'work' for most people was still carried out in and around their home, it was increasingly allocated a separate space.

The inventory of Thomas Raynebeard, the weaver, describes five rooms⁶⁵ and while a spatial separation is evident between his weaving shop (which contained three looms), and the remaining four rooms that were used for cooking, brewing, eating and sleeping, the physical relationship between them is not clear. 'Shop' may signify a workshop in the basement or to the rear of the property, rather than the prominent street-front position that might be expected in a contemporary shop. It seems likely that three people lived and worked there, probably Thomas, his wife and an adult child, both because of the number of looms in the weaving shop, and because the inventory lists a double bed in the "chamber ouer the hall" and a single bed in the parlour. The absence of any stocks of cloth or thread in the loom-shop suggests that they may have worked for a master who delivered the raw materials and collected the completed product. A fairly large room would have been needed to accommodate three looms, and the noise of them working would have been considerable, suggesting that their work may have dominated their lives.

The home of Richard Porter, the baker, included a bake-house. That of Thomas Poultar,

⁶⁵ " In the Hall – One Table & a frame, 2 formes, two little ioyne stooles, the bench & bench board, one little playne table, one fyr shovil, a payer of tongs, two Cobyrons, 2 potthookes, one payer of Bellowes, the painted Clothes with the ymplements prised at £1 13s 4d. -In the Parlour – One halfe headded bed stead, one old Feather bed with script feathers, one boulster, one pillow, 2 blanketts, one Coverlett at £2; one presse cupboard, 13s 4d; 20lb weight of pewter, 6s 8d; 3 earthen Dishes & 3 glasses at 1s; one ioyne Chest & 2 plaine chests, one Chayer with other ymplements in ye parlour 13s 4d. -In the Chamber ouer ye Hall – One plaine bedstead, one Flockbed, one boulster, one pillow, 2 blanketts, with other ymplements at £1. -In the Buttery – Two little barrels, one Kneading troffe, two little Tubs, one little troffe, the shelves with all other ymplements at £1. -In the Brasse – Three Kettles, one little brasse pot, one little postnett, one frying pan, one gridlorn at £1 10s. -In the Shop – Three old loomes with all other ymplements belonging to them at £5 10s."

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the glover, included a shop containing hides, tools and 12 pairs of gloves. Isaac Adames the innholder had a number of rooms with tables and chairs and a “bruehouse”. The home of John Putto, the miller, consisted of a hall, parlour, best chamber, chamber over the hall, mill chamber (containing a bed, covers “and other small things”), dairy, brew-house, stable, windmill and watermill, giving an indication not only of the nature of inhabitation of the various rooms, but of their spatial relationship as well. That of William Poole, the blacksmith, included a workshop with

“...twenty-five barrs of new ireon weighing 8cwt and a half at 14s per hundredweight, £5 19s; twelve streaks of old ireon, one pair of bellows, one slick-trough, three old gloomes al’s anvils, hammers, tongs and other tooles with several peeeces of old ireon, eleaven pare of hanges, one pair of eyes for gates, three pair of fork tines, tenn dozen of new horse-shooes, two box moulds, one beame, scales & weights, with other implements”. (Steer, 1950 p172)

Ann George ran a small shop, her home consisting of a hall, hall chamber, little chamber, shop chamber, buttery, brewhouse and a shop which contained a motley collection of goods including

“...1 parsell of sope, 1 parsell of gingerbread and candells, thread, tape, laces & spindles & balls”. (Steer, 1950 p188)

Joseph Clarke of Roxwell, was a more prosperous grocer and glover, the goods in his shop including a large number of bolts of cloth and haberdashery items as well as a wide range of groceries⁶⁶. All these ‘houses’ included workspaces in which a family business was carried out, suggesting self-servicing villages continuously inhabited through day and night.

An unequal society is portrayed in the inventories, members of different classes being clearly legible through the value and number of their possessions and the size and grandeur of their houses⁶⁷, but the overwhelming majority of inventories across all classes depict lives where productive and reproductive work were interwoven. Some of

⁶⁶ The inventories of these people are Nos 37, 49, 71, 103, 129, 149, 146, 169 in STEER, F. W. (1950) *Farm and Cottage Inventories of Mid-Essex, 1635-1749*. Edited ... by F.W. Steer, pp. 305. pl. XIV. Chelmsford.

⁶⁷ The final estate of Thomas Crush, gentleman, amounted to £1338 13s 2d (or £1287 2s 6d had the maths been correct), compared with Robert Hawes of Roxwell, bricklayer, who left only £3 17s 3d. Thomas’s house amounted to 20 rooms, which contained eleven beds in total, six of which had full curtains and valences. His hall contained “one long table, one little table, eight joyne stooles, one long forme & two joyne formes, two chayers” suggesting a household of maybe twenty sitting to eat. His parlour had chairs for fourteen. As well as the hall, parlour, kitchen and pantry, his house included a dairy, a cheese chamber (containing one hundred cheeses worth £10), a brewhouse, a boulting house, a malt chamber, a kell house a little cellar and a great cellar, all with clearly defined functions. The ‘chamber over the hall’ contained a mass of furniture, suggesting a large space, including “fouer feather beds, three flockbeeds..... two joyne beedsteds, one halfheaded beedsted all with curtins and valiens”, which would have been the bed chamber for Thomas and his family. The kitchen chamber contained both a bed and a collection of pots and pans and kitchen furniture, indicating that the room had a dual function, combining kitchen and bedroom. A garret with a trundle bed and a ‘servant’s chamber’ containing two bedsteads, together with the bed in the kitchen chamber, give an indication of the number of servants in the house. For the entire household Thomas’s house was both dwelling and workplace, although the servants are likely to have had a home and family elsewhere as well. By contrast, the

The workhome... a new building type?



Figure 17: C17 cottages at Roxwell including two shops (2006)

Figure 18: Village green at Writtle (2006)

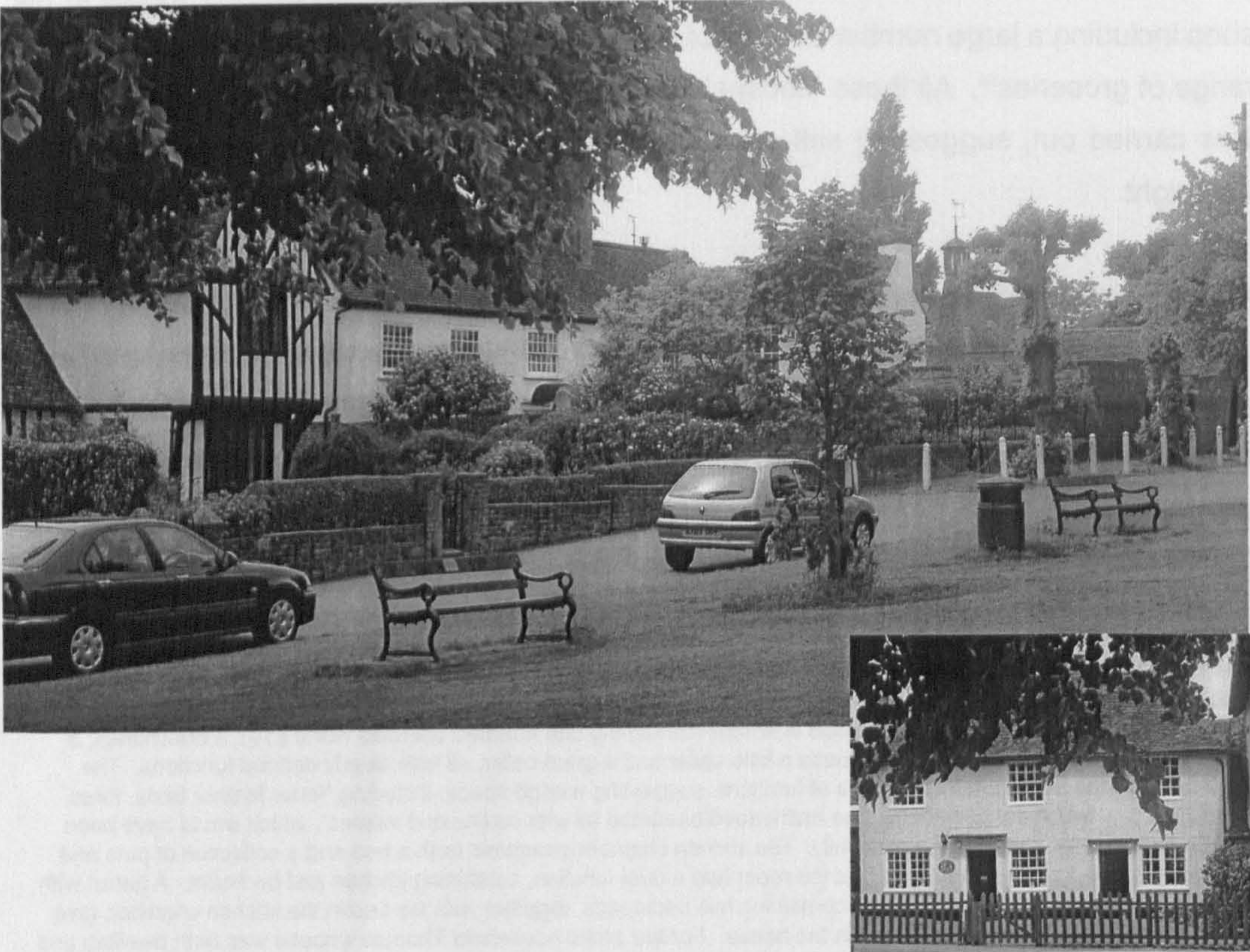


Figure 19: C15 cottages at Writtle (2006)

these workspaces, especially the smithy, the mill and the weavers' houses, would have been noisy, dirty environments where the work dominated, but others, such as the shops and glovers, appeared to have had a more domestic atmosphere. Only a few entries, where the person clearly earned their living by working away from their home, such as the carpenters, bricklayers, gardeners and the miller who worked at someone else's mill, contained no reference to a combined dwelling and workplace.

The picture drawn by Steer's inventories was easily recognisable on a field visit to Roxwell although the social structure of the village has changed⁶⁸. At either end of the terrace of clapboarded cottages opposite the church [fig 17], bow windows indicate the original position of shops. The scattering of seventeenth and eighteenth century cottages may be workhomes included in Steer's inventories.

A visit to Writtle showed it to have expanded substantially in the past 400 years, but its centre has not altered much and Steer's village was also easily recognisable. Sixteenth, seventeenth and eighteenth century cottages and houses surround a village green and duck-pond [fig 18]. As the inventories indicated that most Writtle residents of the time worked from home most of these cottages would have combined the functions of dwelling and workplace, but as they were not designed around a particular form of manufacture or employment, no architectural trace is visible [fig 19]. Sue Bell et al (2001) have linked John Holmes⁶⁹, inn-holder, from Steer's inventories, to the Starr Inn identified on the 1777 map, but it was demolished in the 1960s and a bungalow built on its site [fig 20].

Although the Steer inventories show that most people in rural seventeenth and eighteenth century England worked at home, or lived at their workplace, little evidence remains of the dual function in these houses and cottages. Wool was sometimes woven in the basement, possibly as the damp environment was helpful in preventing the thread from snapping. A weaver's cottage at Kilbarchan, demonstrating this arrangement, has been opened as a small museum by the National Trust for Scotland. The basement weaving shop has been restored, including the original depressions in the floor in which the feet of the loom frames located, and two hand-loom in full working order have been installed

possessions of Robert Hawes of Roxwell, bricklayer, were contained in a single room, and consisted of a feather bed, some linen, one cupboard, a few items of pewter, one old copper and "his working tooles" valued at 3s. In general, the yeomen or small farmers were wealthier than the tradesmen. The nature of his trade meant that Robert Hawes would not have worked from home, and there may be a connection between this and his very modest accommodation and minimal estate. If he spent his working week away from home laying bricks it is possible that he only needed minimal living accommodation, however it is also possible that his trade lacked status and was poorly paid, leaving him one of the humblest members of his community.

⁶⁸ The tiniest cottage with 'character' was valued at £300,000 in 2005

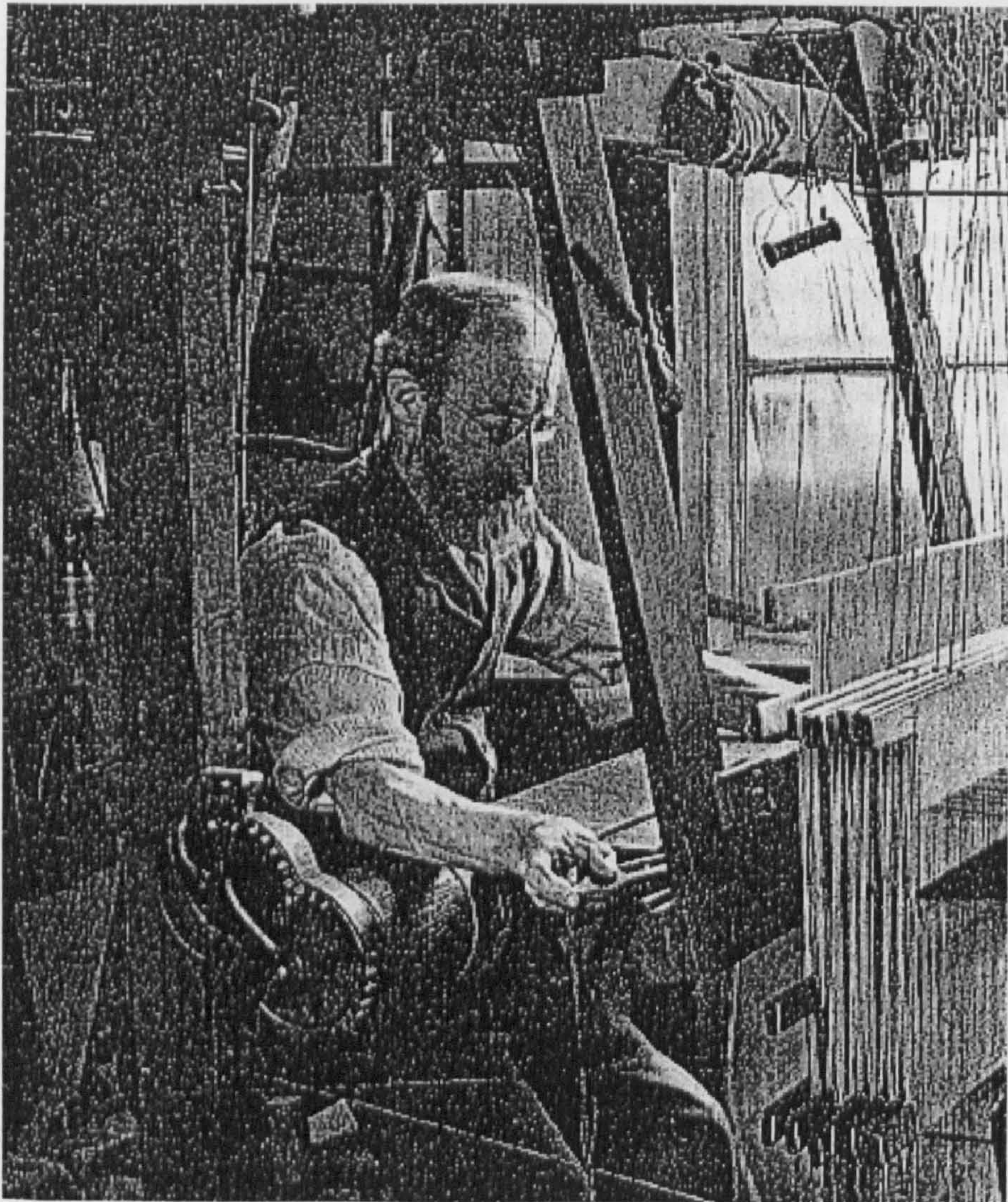
⁶⁹ No 135, died 28 December 1685

The workhome... a new building type?



Figure 20: Site of the Starr Inn, Writtle

Figure 21: A Huguenot hand-loom silk-weaver



(Rock, 1962).

In the silk-weaving, watch-making and stocking-knitting areas of England, however, architectural traces remain that enable deductions to be made about the inhabitation of such buildings. There, workrooms were built with extensive glazing to provide the high levels of natural light necessary for these trades. Many still exist in Coventry, Nottinghamshire and the Spitalfields area of London. Spitalfields was in continuous occupation by the textile industry since the influx of thousands of Huguenot refugees in the late seventeenth century, many of whom were highly skilled silk-weavers, until comparatively recently⁷⁰ (Berg, 1983 p72) [fig 21].

Class differences in the silk-weaving community led to different lifestyles. While both masters and journeymen⁷¹ served an apprenticeship of 7-12 years from the age of 14, the master then did very little weaving while the journeyman would probably weave six out of seven days a week for the rest of his life (Cox, 1996 p63). Houses were designed to accommodate these differences and three categories of buildings emerged: the grand houses of the silk-masters, the 'middling' sort of houses in which family businesses were run, and the smaller dwellings of the weavers to whom work was 'put out'.

Large and elaborate houses were built in Fournier Street for the most prosperous master-weavers. In general these were planned and constructed solely as dwellings (Sheppard, 1957 p199), the Huguenot masters initially employing weavers by the hundred in single-storey loom-shops in streets such as Shuttle Street. However a recession in the silk industry meant that these businesses were down-scaled to the point where only a few weavers were employed in the masters' own dwellings and as a result weaving-shops were added to the houses⁷². Silk thread being fine and therefore difficult to see, the loom-shops were built on the top floor and fully glazed to front and rear to maximise the natural light [fig 22], artificial light being both expensive and poor quality, pre-electricity. In these houses, there would have been a conflict between the commotion caused by apprentice and journeyman weavers working up to 16 hours a day in the attic loom-shops, and the elegant lifestyle of their master and his wife. While some separation was created

⁷⁰ An indication of the prominence of the silk industry in the seventeenth century is given by an analysis of the 250 identifiable skeletons that were excavated from the burial vaults of Christchurch, Spitalfields in 1984-89. This showed that 40 per cent had worked within the silk trade, of whom 62 were master silk-weavers or merchants, 17 were journeymen weavers and 14 were dyers.

⁷¹ Dictionaries and encyclopaedias generally agree on the following definition: 'journeyman: a skilled worker who is employed by another.' Only the Oxford Dictionary of Local and Family History adds '...a day-labourer, often who worked away from home...'

⁷² Interview with Gareth Harris of Spitalfield Trust

The workhome... a new building type?



Figure 22: Attic weaving-shops, Fournier St, Spitalfields (2005)



Figure 25: 16 Elder St, Spitalfields

Figure 23,
24: Plans and
section, 14
Fournier St,
Spitalfields

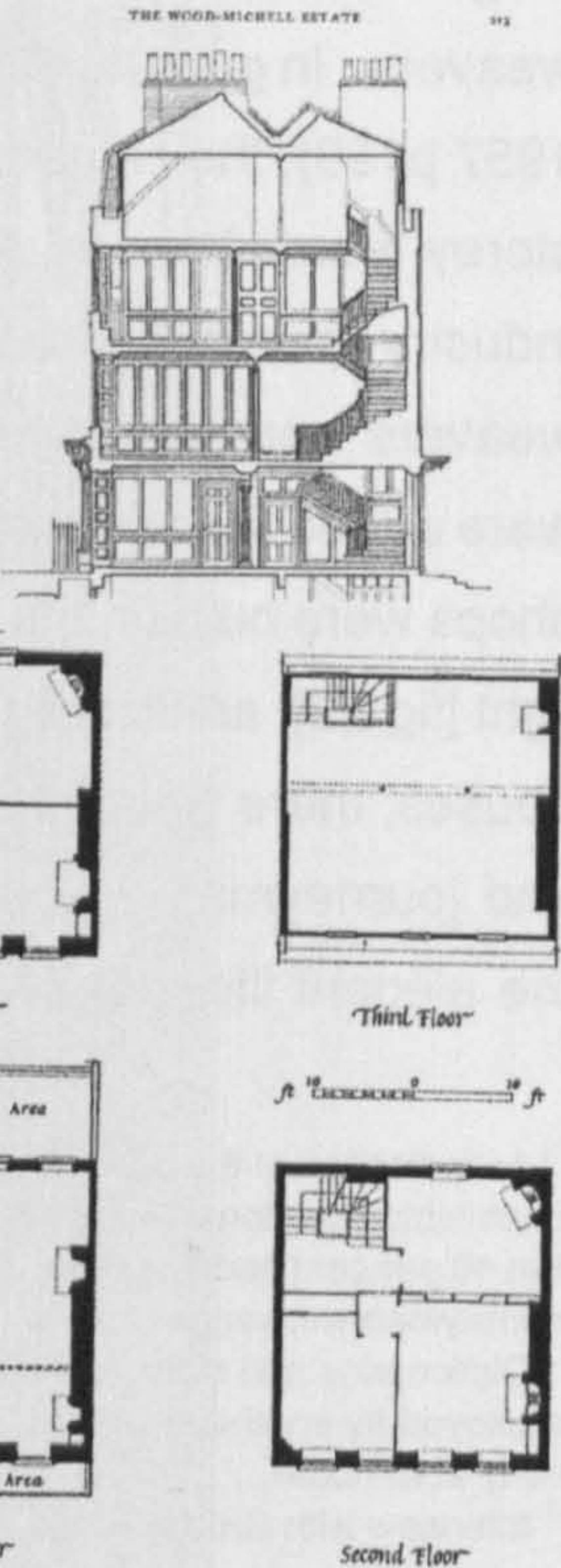


Figure 26:



between the 'dwelling' and 'workplace' areas of the house through the positioning of the looms in the attic (fig 23, 24], the noise would have carried throughout the whole house. In some cases silk waste was packed between the attic floor joists in an attempt to increase the separation between 'work' and 'life' within the house by soundproofing the workplace (Sheppard, 1957 p199).

It is probable that a prosperous journeyman ran his family business in the four-storey workhome at No. 16 Elder St, built in 1724 [fig 25]. The wide arched windows indicate the position of large loom-shops at second and third floor level, smaller windows suggesting living accommodation on the ground and first floors. The provision of an equivalent amount of space for both living and workspace suggests a household structure different to both that of the silk-masters' houses in Fournier Street, with their third-floor weaving garrets, and the journeymen's houses in Calvin Street, where the single loom-shop was positioned at second-floor level. In these houses, members of the family, apprentices and 'journeyman's journeymen' would all have worked the looms, living and working together, eating as a large extended family, the different functions accommodated separately and in combination, with apprentices and journeymen probably sleeping amongst the looms.

The weavers' cottages shown in fig 26, also suggest fairly prosperous households. They include a minimum of two rooms on the ground floor of these double-fronted houses, and maybe four or more if the houses were more than one room deep or included a rear extension. The upper floor loom-shops were large enough to contain three or four looms, which would have been operated either by members of a single family, or by the family assisted by apprentices and journeymen. The double doors onto the street indicate an entrance to a yard at the rear of the house, probably for horses and a cart or carriage, but the omission of a relieving arch above the opening suggests it may have been inserted at a later date.

The third class of house, occupied by the less-skilled English silk-weavers to whom much of the work was 'put out', were also built with large windows to their upper floor loom-shops. Fig 27 shows a terrace of modest weavers cottages in Bethnal Green, where the glazing to the workspace dominates the elevation. Inside the accommodation would have been cramped. The interior view, contemporary to the time, gives an idea as to how the space may have been inhabited [fig 28]. A man sits weaving at a well-lit loom while a woman sits beside him at a table with an unfinished meal on it. The household would have revolved around the loom in much the same way as Silas Marner's did, no

The workhome... a new building type?



Figure 27: Weavers' cottages in Bethnal Green



Figure 28: Interior, weaver's cottage in Bethnal Green

distinction being made between the productive and reproductive aspects of life.

The silk industry also involved other processes that were carried out from home. No's 7 and 13 Fournier Street are examples of dyers' houses, the vaulted basement dyeing chambers extending under the road, elaborate flues marking the former positions of great vats for dyeing cloth⁷³, too heavy to be supported on a standard suspended floor. As productive work increasingly became the domain of the man, carried out independently from the reproductive work of the household, it no longer needed to be positioned at the heart of the dwelling. The gendered division of labour led to a division of place as well. The spatial differentiation between the functions of dwelling and workplace, apparent in many of the weavers' houses, could therefore be taken a step further and the workplace removed to a separate building, albeit one that was only a few paces away from the dwelling. An early example of this is the premises of one Henry Coates, a dyer of No. 26 Princelet Street/ 63 Brick Lane, who was given leave to make a drain to the dye-house adjacent to his house in Brick Lane in 1706 (Sheppard, 1957 p187).

Coventry had an atypical progression from pre-capitalism to proto-capitalism because the growth of the city was restricted by the late enclosure of the surrounding common land (Prest, 1960 p19-42). As a result, craft processes that were generally characteristic of the seventeenth and eighteenth centuries were practised late into the nineteenth century, leading to the construction of many workhomes designed around the requirements of the craft-workers, as the population of the city grew. Silk-weaving, introduced in the seventeenth century, was still common in the nineteenth century, and many new houses incorporated upper-floor loom-shops with large windows, called 'top-shops', again to maximise natural light [fig 29].

Three different classes of silk-weavers' houses were also built in Coventry, for the masters, the journeymen and for the individual weavers to whom work was 'put out'. The master's house was the grandest and the example illustrated at no. 32 Queen St, Hillfields⁷⁴ [fig 30] lay somewhere between a traditional weaver's house and a factory, a large number of people being employed there and the production processes being separated spatially. Incorporating a top-shop, lit front and rear by big windows, it also included an office, separate workshops for winding and warping, a warehouse and a 'front room' where customers were received. Apprentices and journeymen probably slept amongst the looms. Separate front and rear entrances and staircases, and a separate

⁷³ Interview with Gareth Harris from the Spitalfields Trust

⁷⁴ Queen Street was a demolition site in June 2004

The workhome... a new building type?



Figure 29: Two and three storey topshops, Brook St, Hillfields, Coventry

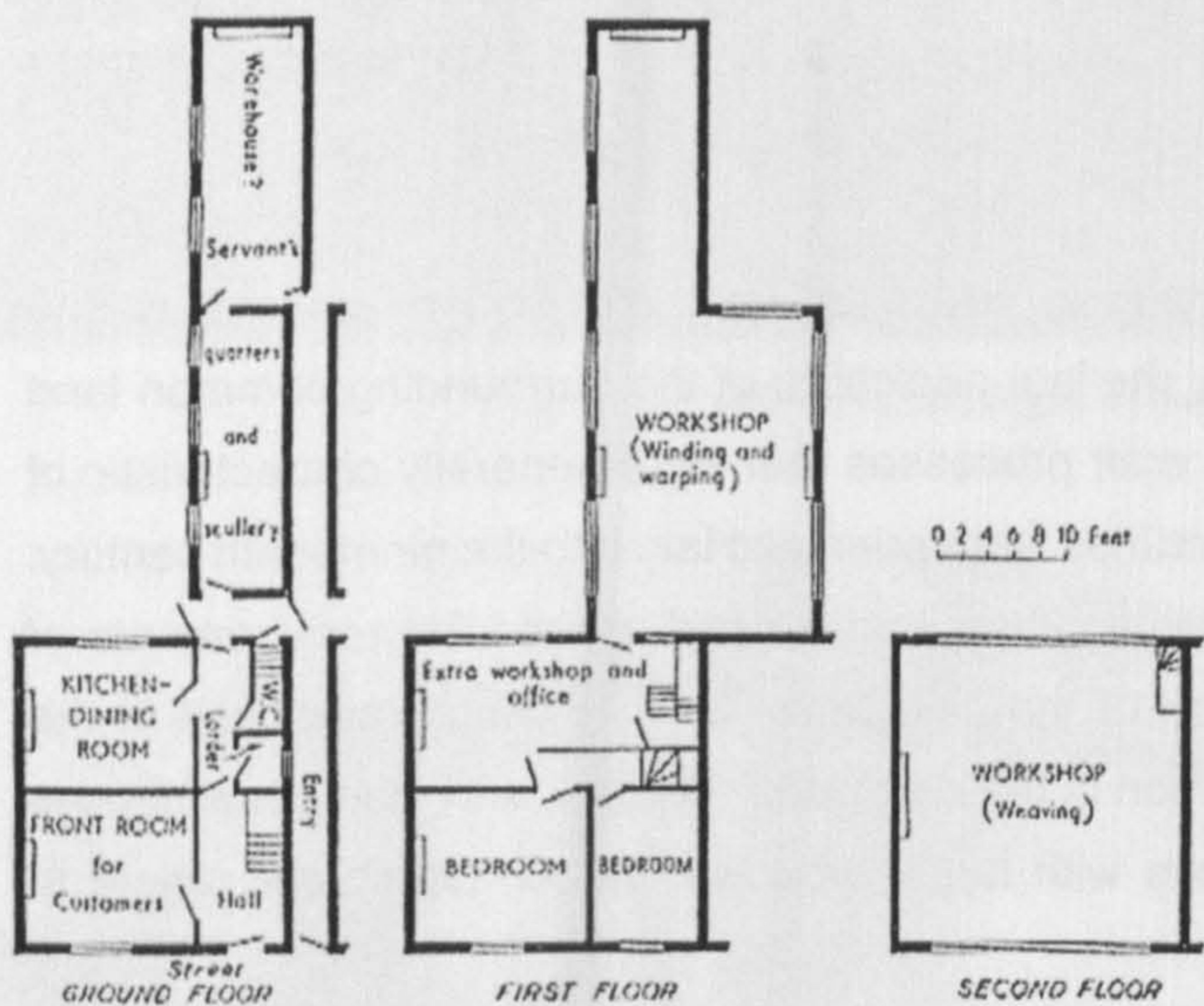


Figure 30: Plan, 32 Queen St Hillfields, Coventry, a prosperous ribbon manufacturer's house

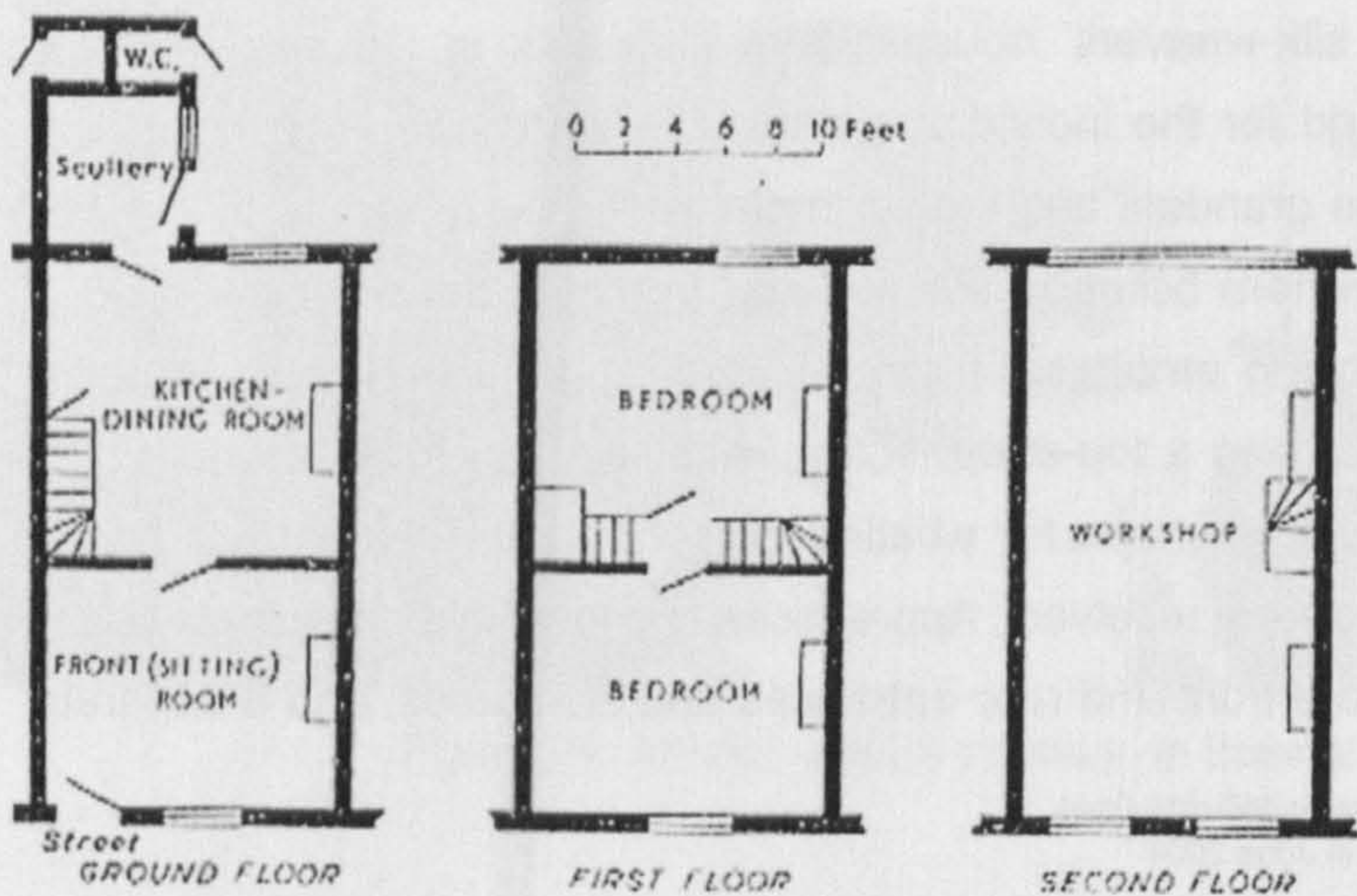


Figure 31: Plan, 11 Vernon St, Hillfields, Coventry, three storey weaver's house

scullery, with space for servants' quarters, indicate a developing separation between the master and his workers, the master having a managerial rather than a productive role. However the whole house revolved around the work, unlike the Spitalfields silk-masters' houses, in which a strong separation was suggested between those working away in the garret loom-shops and the elegant and leisurely life of the master and his family in the house below.

The three-storey journeymen's houses followed a standard plan, no. 11 Vernon St⁷⁵ [fig 31] being typical. The sitting room, opening off the street, would only have been used on formal occasions, as the kitchen-dining room, entered through the back door, was at the heart of the house. The large, open-plan, extensively glazed, second-floor top-shop in which the members of the journeyman's household would have worked, was open to the floor below, again giving little sound insulation from the sleeping, eating and cooking spaces of the house. As with some of the Spitalfields weavers' houses, rags were stuffed between the floor-joists of the top-shop in an attempt to insulate the house below from the noise of the weaving (Prest, 1960 p85), indicating a desire to separate productive work from the more domestic aspects of life. Still, the looms were noisy machines and the sound of the weavers working must have reverberated throughout the houses.

Who controlled productive work, and time in general, became an issue in the transition between pre-industrial and industrial England. Regular 'working hours' were unknown before the Industrial Revolution, people's lives generally involving a combination of productive work, reproductive work and fun. As most people working in manufacture were paid 'by the piece', they could work at will⁷⁶ (Reid, 1976 p92) and, although high piece rates could provide good wages for skilled men, they generally preferred to take less money and have more leisure time. This often took the form of women starting late once they had given their children breakfast and men working eccentric hours (Sidwell, 1972 p67)⁷⁷. This freedom to work at will was central to their way of life, and one of the greatest attractions of working at home.

⁷⁵ Vernon Street has been demolished and a 1970's housing estate built on its site

⁷⁶ As Elizabeth Pritchard, a Black Country woman, noted "...Don't work on Mondays, don't play, but do washing and fetch coals..."...as if washing and fetching the coals was not work. The definition of 'work' as productive rather than reproductive work was set by then. (Ivy Pinchbeck 'Women Workers of the Industrial Revolution 1750-1850' London 1930 p280 cited in REID, D. (1976) *The Decline of Saint Monday 1766-1876. Past and Present*, Vol.71, pp92.

⁷⁷ "... the demands of the clock were often subordinated to the desire for sociability: the industry of the people was considered extraordinary; their peculiarity of life remarkable. They lived like the inhabitants of Spain, or after the custom of the Orientals. Three or four o'clock in the morning found them at work. At noon they rested; many enjoyed their siesta; others spent their time in the workshops eating and drinking, these places being often turned into taprooms and the apprentices into pot boys; others again enjoyed themselves at marbles or in the skittle alley. Three or four hours were thus devoted to 'play'; and then came work again till eight or nine and sometimes ten, the whole year through." Birmingham Journal 26 Sept 1855 Hints for a History of Birmingham cited in Ibid.

The workhome... a new building type?

Until the mid-nineteenth century, 'Saint Monday', the tradition of not working on Mondays, was accepted as a normal way of life for most working-class people. In general it was a day of leisure, involving outings and socialising (Reid, 1976 p68). George Davis painted a dissolute picture of Saint Monday in his eighteenth century poem, mentioning a variety of Saint Monday activities, including skittles, quoits, five-balls, visits to the marble alley or the playhouse to see opera singers, jugglers or Shakespearean plays, followed by a visit to the local brothel (itself a workhome):

“... then flies, with speed
By mad intoxication led away,
In a vile brothel to complete the day.”⁷⁸

However this jaundiced view reflected that of the employers, rather than the producers, for whom St Monday made an important contribution to the maintenance of a good work-life balance. When possible 'Saint Monday' was stretched into 'Saint Tuesday' (Reid, 1976 p93). It was only with the mechanisation of the manufacturing process and the introduction of the factory system that employers started to control the hours that their employees worked, a movement that was fiercely resisted by the workers. The putting-out system, while embracing the principles of capitalism, enabled people to work the hours that suited them in their homes. This practice continued throughout the industrial revolution despite the invention of the factory and is still in operation in the twenty-first century, in some areas of home-based work.

A struggle ensued, in the mid-nineteenth century Coventry silk industry, between the highly skilled weavers who wanted to continue to work from home and the less skilled workers who were prepared to work in factories.

“...detesting the factory system as an infringement of their time-honoured liberty to work when they chose, and despising the lower class of improvident weavers with no looms of their own, who had already taken work in the factories, they were determined to preserve their way of life, and their respectable, propertied virtues. If steam was inevitable - and competition made it that - then they would not be driven out of their homes to work in

⁷⁸ “When in due course Saint Monday wakes the day
Off to a Purl-House straight they haste away
Or, at a Gin-Shop, ruin’s beaten road,
Offers libations to the tipling God
And whilst the gen’rous liquor damps their clay
Form various plans for saunt’ring out the day.
... Perhaps at work they transitory peep
but Vice and Lathe are soon consigned to sleep;
The shop is left untenanted awhile
And a cessation is proclaim’d from toil...
... Then flies, with speed
By mad intoxication led away,
In a vile brothel to complete the day.” Davis G (1790) St Monday; or Scenes from Low-life

The workhome... a new building type?



Figure 32: A Coventry cottage factory

factories. Why should they journey to the steam-engine when the steam-engine could be brought to them?" (Prest, 1960 p95)

The cottage factory, apparently peculiar to Coventry, was a compromise between the two options. Steam engines were linked to looms in the attic top-shop of each weaver's house, bringing the advantages of the power-driven loom to the home-based weaver. It was not difficult to add an engine-house to the end of a terrace of journeymen's houses and to connect the looms in the top-shops to a single steam-powered shaft running from attic to attic, thus enabling the skilled craftsmen to keep their share of the market while simultaneously maintaining control of their time and labour. By 1859, although the wealthiest masters had set up factories of mechanised looms that could be operated by unskilled weavers, the industry in Coventry was divided between 15 large factories with 1,250 power looms and 300 cottage factories with between two and six looms each (Prest, 1960 p95) [fig 32]. By late 1860, 383 such 'cottage factories' were on the books of the HM Inspector of Factories (Prest, 1960 p98) some converted from existing rows of top-shops and some purpose-built to accommodate power-driven looms. Although immensely successful socially, they were less efficient than the local factories and foundered when the English silk market collapsed as a result of the removal of duty on imported ribbons and a series of strikes aimed at maintaining a list of prices. It never recovered. In the ensuing recession, the cottage factories suffered firstly because the cost of running the steam-engine remained whether or not the weavers were working and secondly because all the inhabitants were dependant on the same failing industry. Charles Bray, the nineteenth century free-thinker involved in founding both the allotment movement and the co-operative society, suggested that had the weavers been able to...

"...subordinate their individual interests to those of the square, they could have run their affairs cooperatively, and become masters of their own trade" (Bray, C (1863) p410 cited in Prest, 1960 p110).

Eli Green, a wealthy silk-master, built a cottage factory that comprised a triangular block of 67 top-shops in the Hillfields area of Coventry in 1858 [fig 33, 34]. Each had its own front door, separate living accommodation and attic loom-shop, the top-shops with their trademark large windows linked by a drive-shaft to a steam engine. Built, as was commonly the case, to make an enclosure around the engine, the cottage factory formed a community of its own:

"From his window at the top of his house the first-hand journeyman could see over the little gardens of the community, and watch the other weavers at work. Down in the middle the communal steam engine revolved - common not in the sense that the weavers had clubbed together to buy it, but common

The workhome... a new building type?

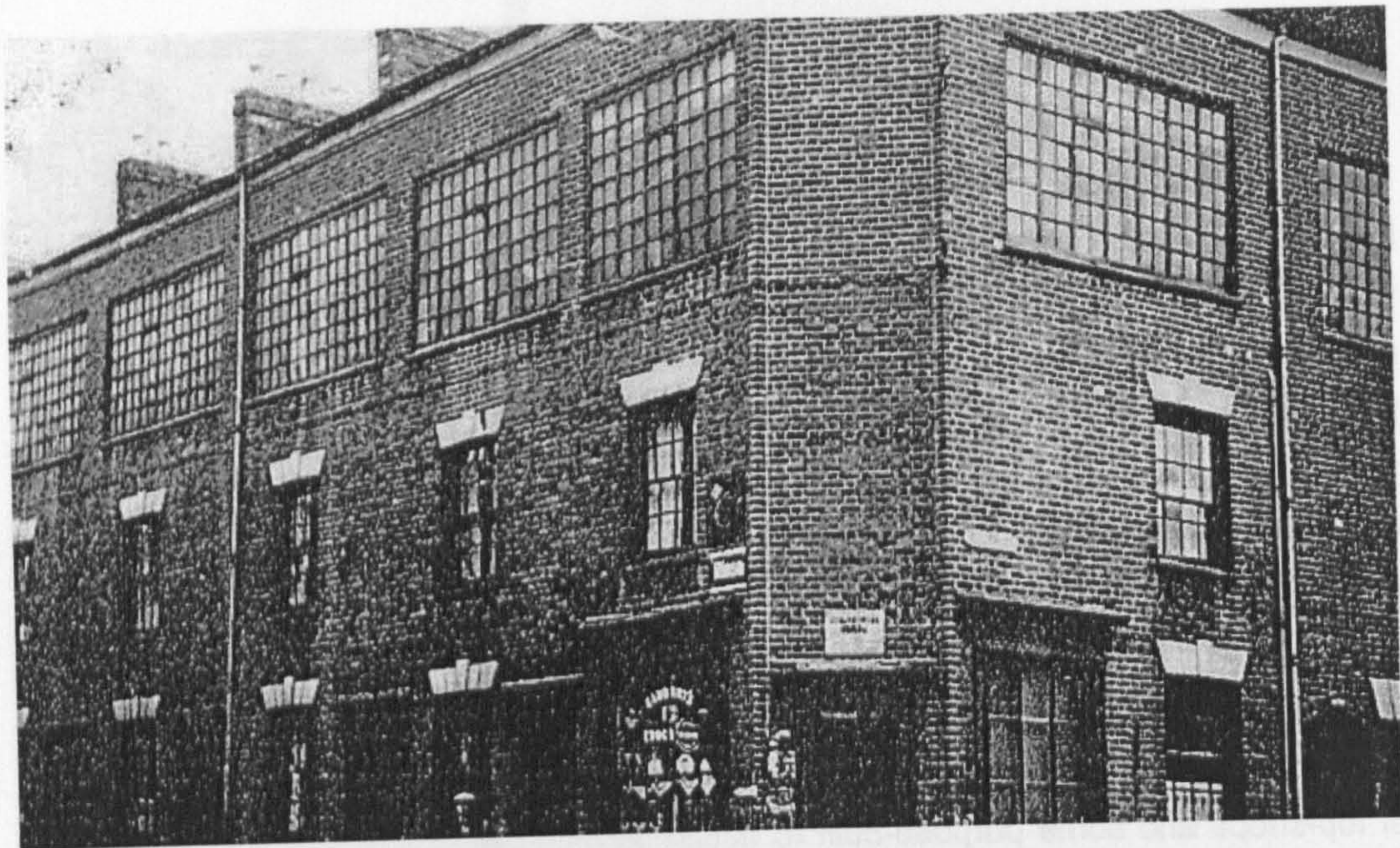


Figure 33: Street elevation to Eli Green's cottage factory, Hillfields, Coventry

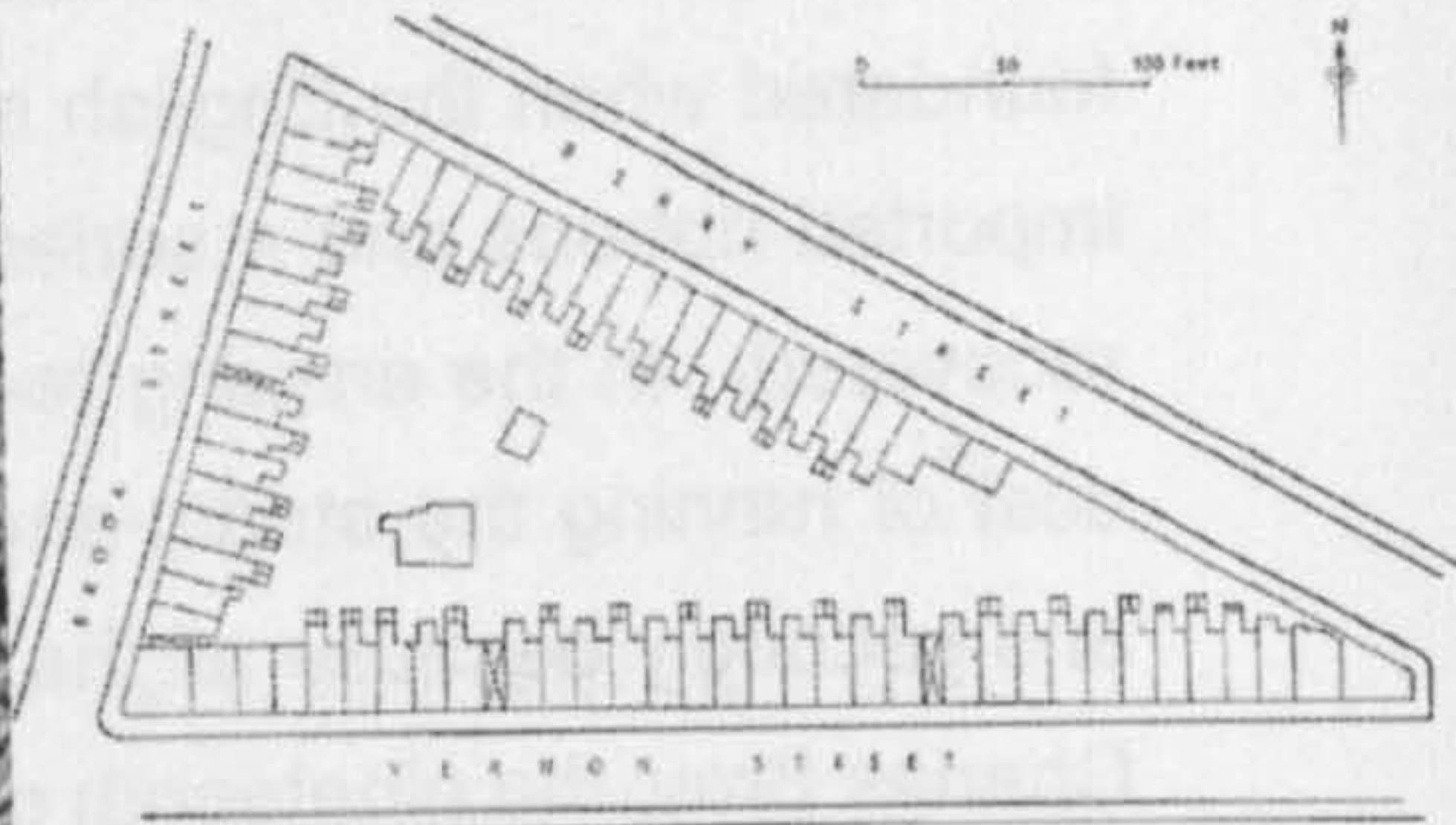
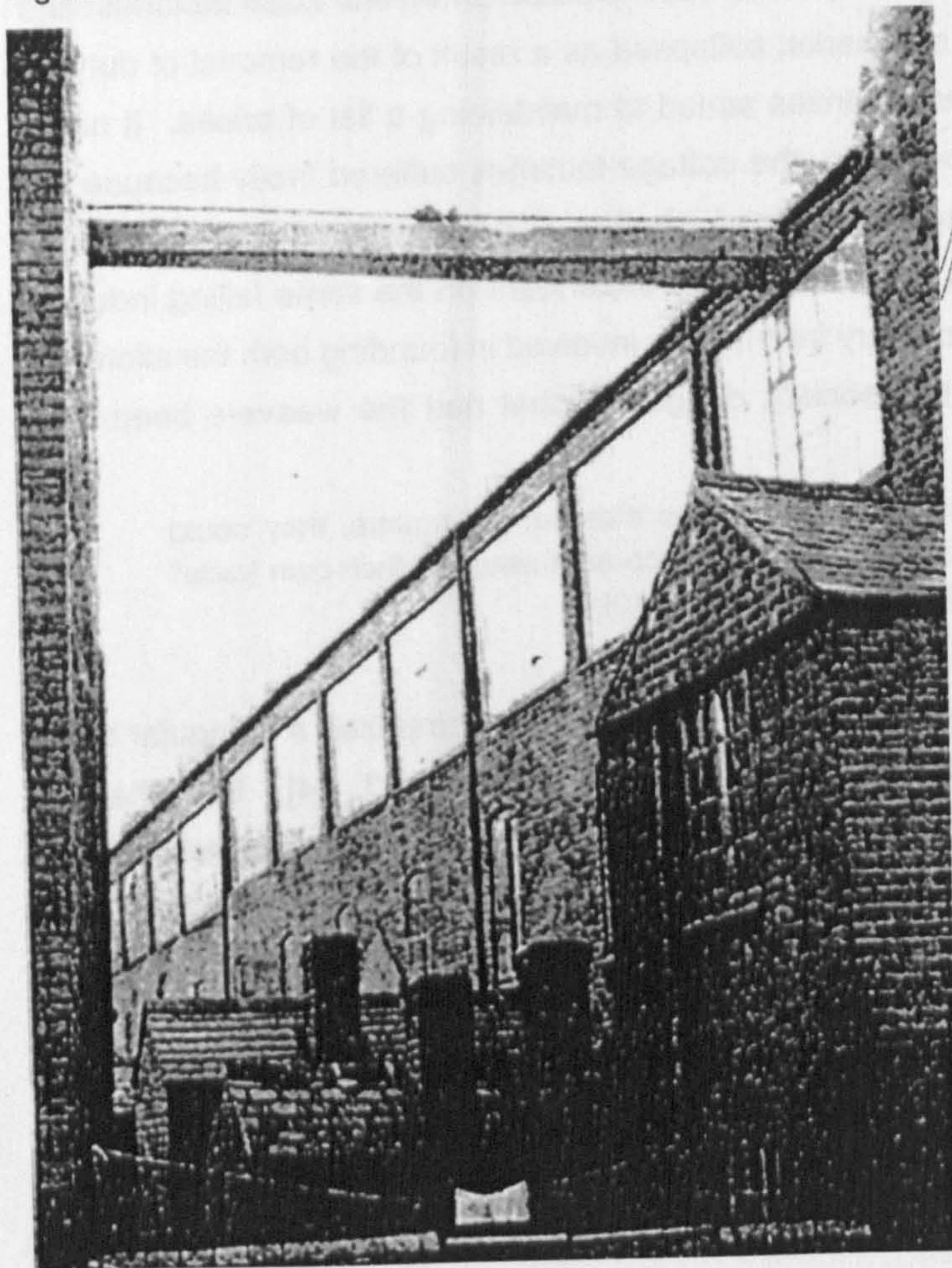


Figure 34: Plan of Eli Green's cottage factory, Hillfields, Coventry

Figure 35: Rear elevation to Eli Green's cottage factory, Hillfields, Coventry

in the sense that they all paid rent to 'the proprietors of steam property' to hire it, at a rate of two or three shillings per week per loom. The noise of the revolving shafting, and of the looms, must have reverberated all the way around the enclosure. In prosperous times it was a sizeable organization." (Prest, 1960 p101)

It is likely that a strong sense of community developed as a result of the weavers' geographical proximity to one another, their common cause in relationship to the masters and the decline of the English silk industry and, presumably, the form of the central enclosure, in which every household had a small allotment on which they could grow food to supplement their income. The street elevations of Eli Green's cottage factory are a fusion of industrial and domestic icons, the 16 pane traditional sliding sash windows with their stone flat arches and raised keystone pronouncing 'home', while the 7-8 sq m wrought-iron glazing above, with steel or iron lintel creating a classic industrial-modern head detail, shouts 'factory'. On the corner is a shop, which probably sold either food or silk-trade related items. This is an iconic example of a workhome, the architecture expressing the combined functions of the building.

The rear view of Eli Green's cottage factory in fig 35 confirms that the top-shop was fully glazed, front and rear and that the upper, industrial storey was much taller than its lower domestic counterparts, in order to accommodate the looms. The large areas of glazing to the loom-shops will have given long views across both the cottage factory itself and the city, as well as providing a high level of natural light. The drive shaft can be seen linking the engine-house to the cottage factory itself, a reminder of the impact this noisy, revolving element must have had on the workplace, the home and the whole community. While these were standing in 1960, Prest reporting that the steam shafting was still visible where it ran between the corner of two of the block (Prest, 1960 p102), this area was redeveloped in the 1970's and now consists of a series of cul-de-sacs edged with unimaginative housing, the only lingering reference to its past life being in the naming of the new development after the streets on which Eli Green's cottage factory was built.

Another cottage factory, 'Cash's One Hundred', was built in 1857. This was an attempt by the philanthropic Quaker brothers Cash to maintain the independence of the traditional weaving household, while simultaneously keeping up with the technical innovations of the time, in order to remain financially viable⁷⁹. One hundred workhomes were planned in this development, but only 48 were built, in three blocks, one of which flanked the

⁷⁹ Maybe significantly, Cash's is still the foremost ribbon weaving company in the United Kingdom.

The workhome... a new building type?



Figure 36: Canalside elevation to Cash's cottage factory, Kingfield, Coventry

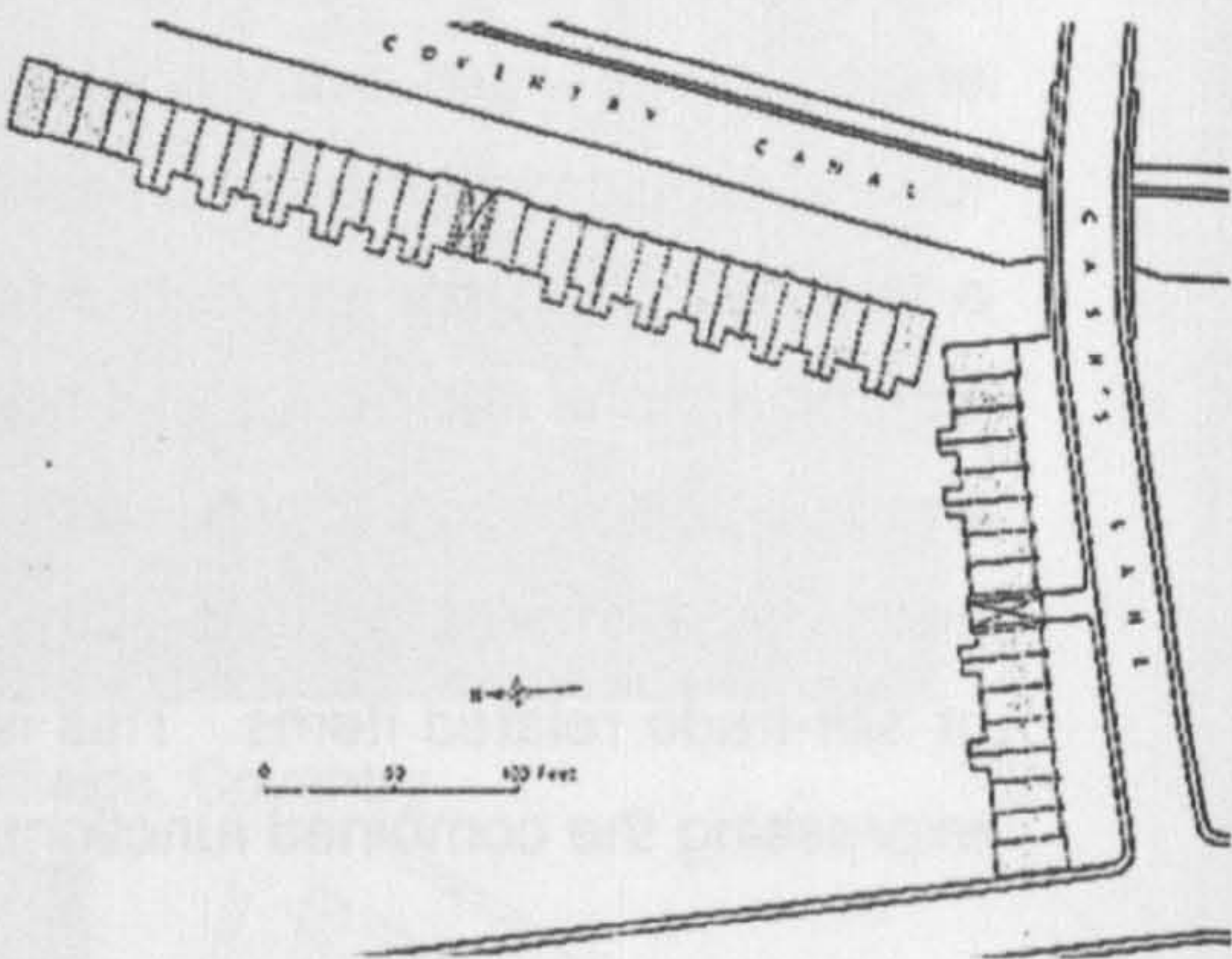


Figure 37: Plan of Cash's cottage factory, Kingfield, Coventry

Figure 39: Fragment of drive mechanism, Cash's cottage factory, Kingfield, Coventry

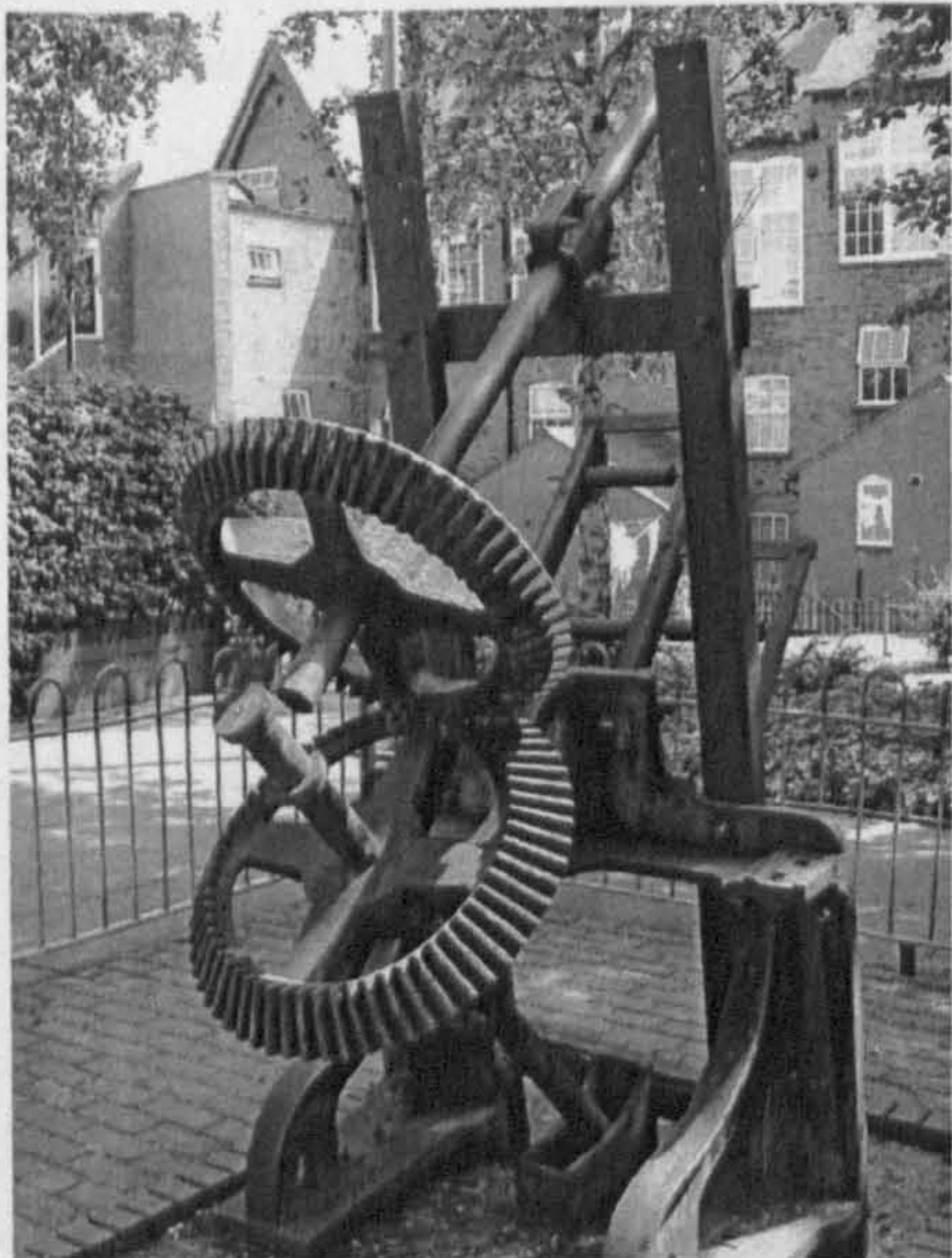


Figure 38: Rear elevation, Cash's cottage factory, Kingfield, Coventry



canal. Three stories high, the double-height loom-shops were accessed by ladders from the living quarters below. At the end of each block a steam engine was housed, the drive shaft running up the side of the building and along the attics, linking the silk weaving looms [fig 36, 37, 38, 39].

The architecture of Cash's cottage factory also expresses its combined functions of workplace and dwelling, designed in part as a traditional terrace of 'two-up/two-down' working-class housing but also to meet the requirements of the tall, newly invented Jacquard loom⁸⁰, the top-shops being half as high again as the domestic stories. Tall windows to front and rear provided the necessary levels of natural light for silk weaving, while paths along the front and rear of the cottage factories enabled efficient movement between one house and another. Men, women and children would have worked long hours in these top-shops, while also cultivating the central allotments to supplement their incomes.

S.L. Sidwell, son and grand-son of Coventry silk-weavers, tells of the cottage factory top-shop in his family home in Bradford St, Hillfields, some generations later when the engine was gas-powered:

" My grandfather had five sons and three daughters, all married. It was these large families that provided the labour force so necessary to the silk trade. All families went up to the Top Shop, about 4am with their food for the day, gas being laid on for cooking, lighting and for the motive power for the looms. Crossley gas engines were in use for this purpose, the shaftings being run from house to house there being no electricity in those days. I can remember about 1899 going up to the looms and observing my grandfather in his frock coat and top hat, who after seeing the looms were operating OK left to journey to the Drapers Hall to sell his wares, drink a bevy and return much later in the day to his beloved looms.... When working, the looms did not stop, only for breakdown, meals being taken al Fresco. The weaving families, although not well off for money, were very happy together, and when trade was bad, pawnbrokers supplied the necessary cash to live." (Sidwell, 1972)

This description of late nineteenth century social and economic life is imbued with patriarchal Victorian values. The grandfather in his frock coat and top hat set the entire family up to work in the top-shop in the small hours of the morning before setting off for his day of drinking and trading. However, while Sidwell's reference to the combination of happiness and poverty might relate solely to the temperament of this particular family, it appears to suggest that, despite automation, the way of life was conducive to happiness.

⁸⁰ Using punched cards for the control of patterns in the silk, this loom was invented by a weaver in an attempt to improve working conditions for his fellow silk-weavers. But this backfired, and the innovation led to riots when the silk masters realised they could employ cheaper, less-skilled workers to operate the looms in their factories, leaving many skilled weavers unemployed.

The workhome... a new building type?

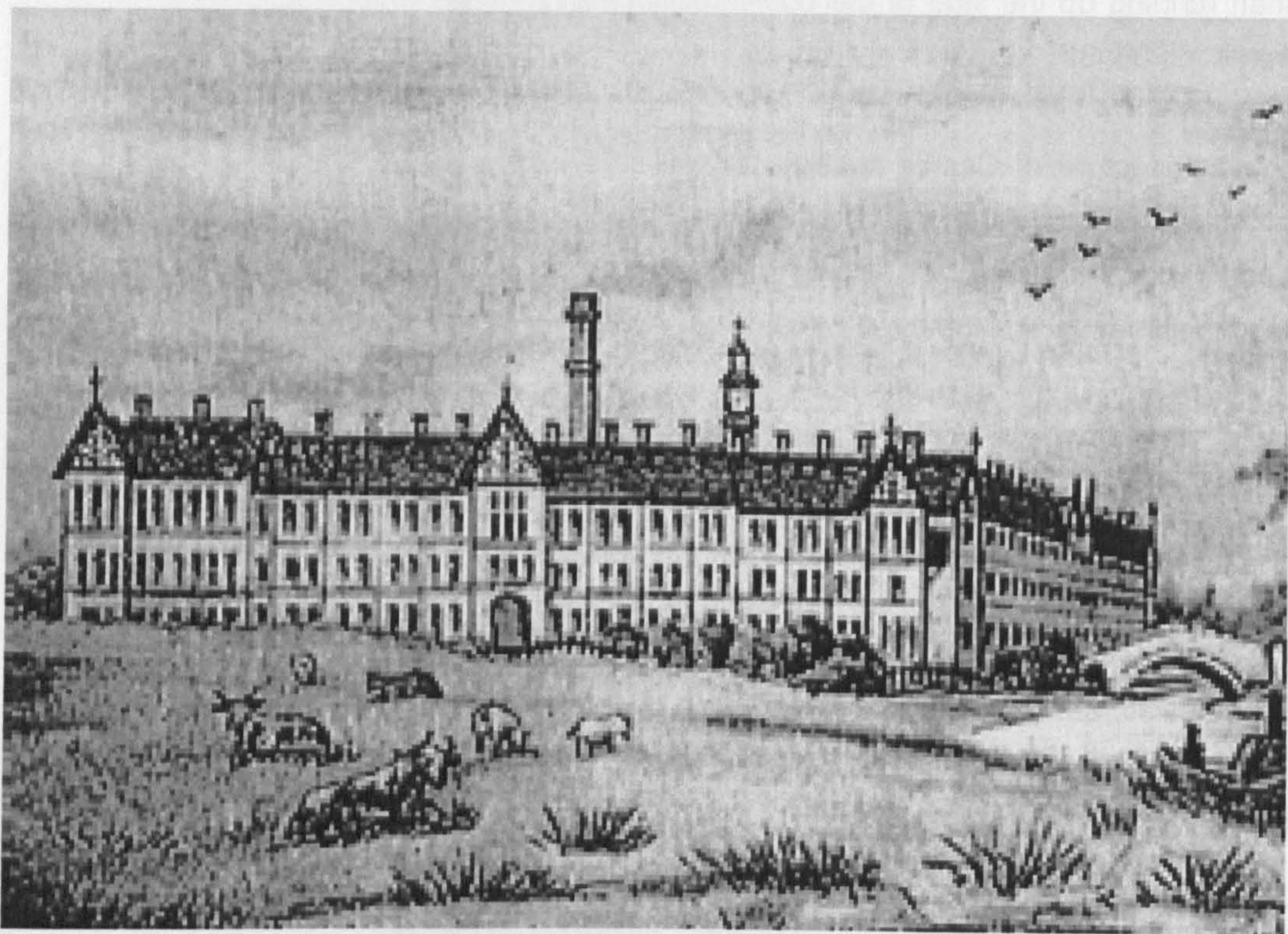


Figure 40: Painting of Cash's cottage factory, Kingfield, Coventry

Figure 41: Master watchmaker's house, Coventry



His words can also be interpreted to indicate that there was a collective contentment between the weaving families who formed a community in terms of their location, their economics and their shared interest.

One of the major impacts this innovation had on the weavers' lives was an awareness of the concept of time. Previously they would have worked at will, often starting in the small hours of the morning and finishing late at night, with plenty of leisure time woven into the working day. However once their looms were linked to the central steam engine they could only work the hours that it was running and as a consequence would have begun work when the engine started up and finished when it stopped. The machine, or rather the owner of the machine, began to regulate the working day, but because the work was taking place in the home, leisure activities and domestic duties could continue to be combined with productive work. This arrangement was considered preferable to having to go out to work in a mill or factory, self-determination being highly valued (Prest, 1960 p94). The painting of Cash's cottage factory in fig 40, while inaccurate in terms of the actual layout of the buildings, suggests the importance of both the steam engine and the regulation of time through its prominent portrayal of the chimney and clock tower.

Function-specific workhomes were also built for the watchmakers in Coventry, most of whom also worked from home in the 'putting-out' system. Similar in many ways to the weavers' top-shops, expansive windows to the workshops make these workhomes easy to identify. Their workshops tended to be located at the back of their houses, in upper floor top-shops or rear extensions, as they liked their houses to appear from the street as if no-one worked there. The workshops were usually single aspect, their only requirement being a bench with a high level of natural light. The manufacture and assembly of the tiny parts required little space, so a number of watchmakers were able to work at a single bench.

Once again, the watchmakers' houses conformed to three types, indicating the master watchmaker's status in the community, with a formal entrance from the street for the family and customers and an informal rear entrance for everyone else [fig 41]. The dwelling appeared to be a conventional house, the productive work functions being accommodated in a largely hidden rear extension. Unlike the weavers' houses, the architecture made few concessions to the combined function of dwelling and workplace, the functions being separated into two apparently separate elements. At No. 61 Allesley Old Road, a separate back door and staircase accessed 'the works' in the rear extension, which consisted of a ground floor workshop and warehouse, with a large

The workhome... a new building type?



Figure 42: View, 61 Allesley Old Rd, Coventry

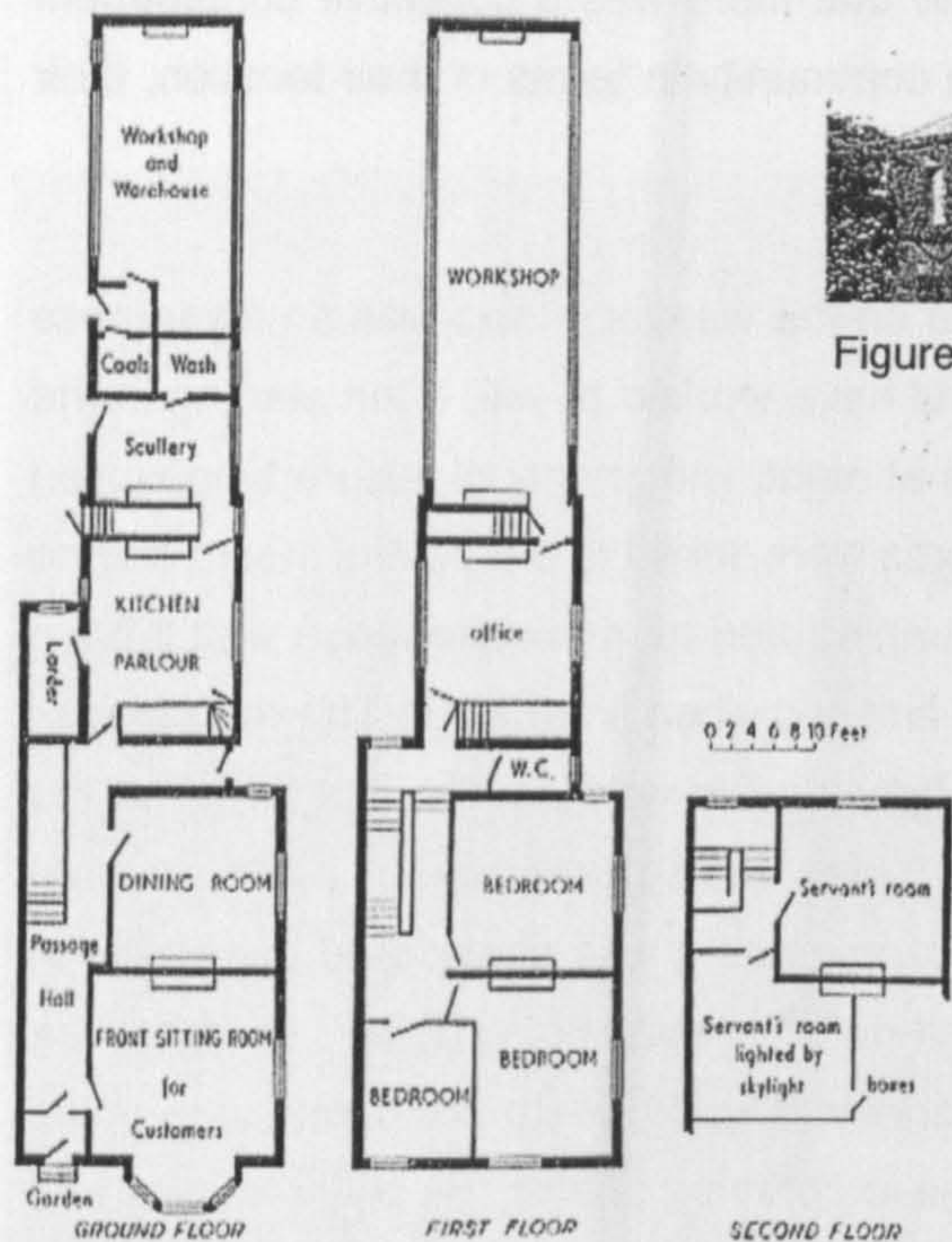


Figure 43: Plan, 61 Allesley Old Rd, Coventry

Figure 44: Front and back elevations, 34 Craven St, Coventry

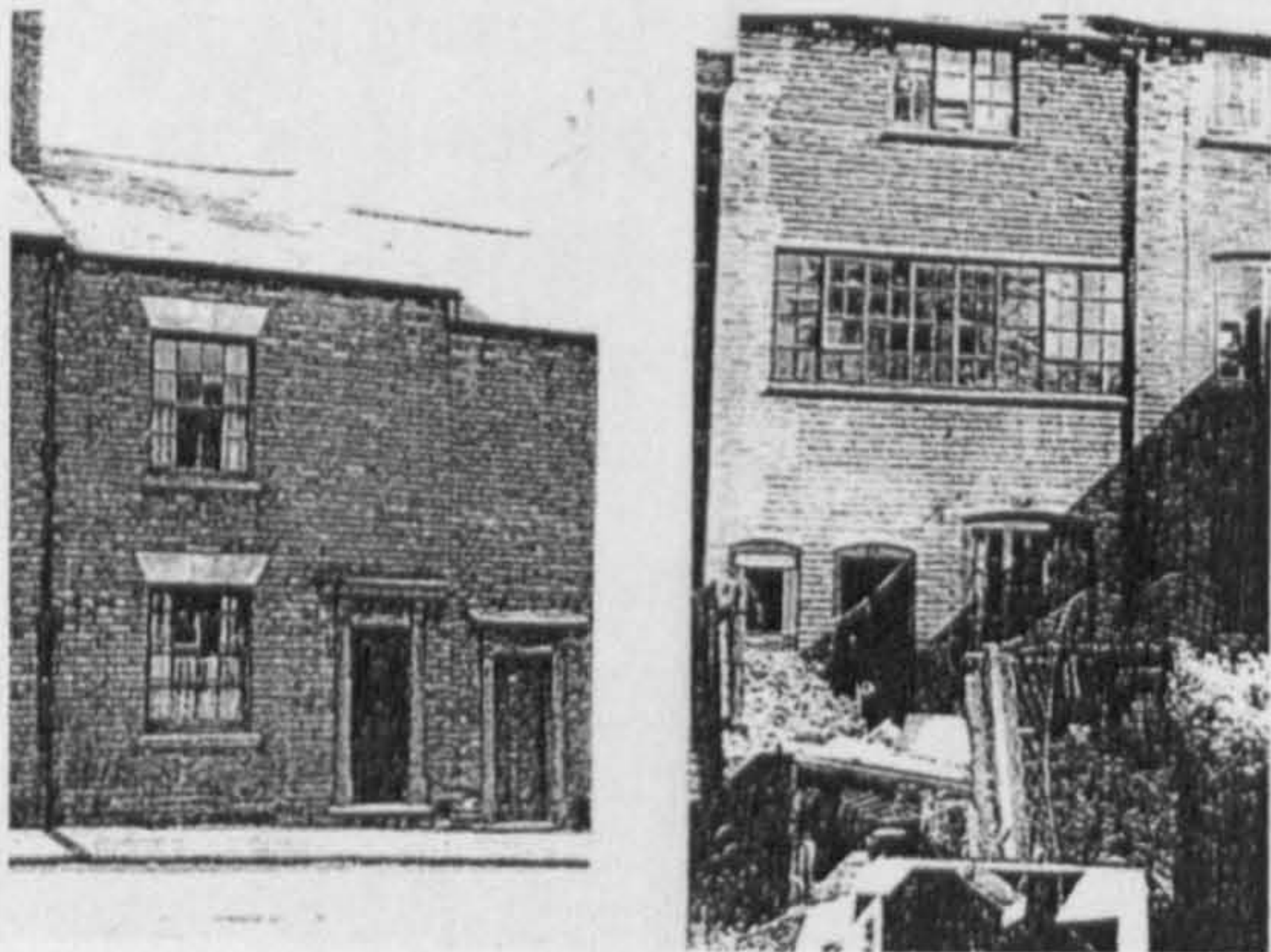
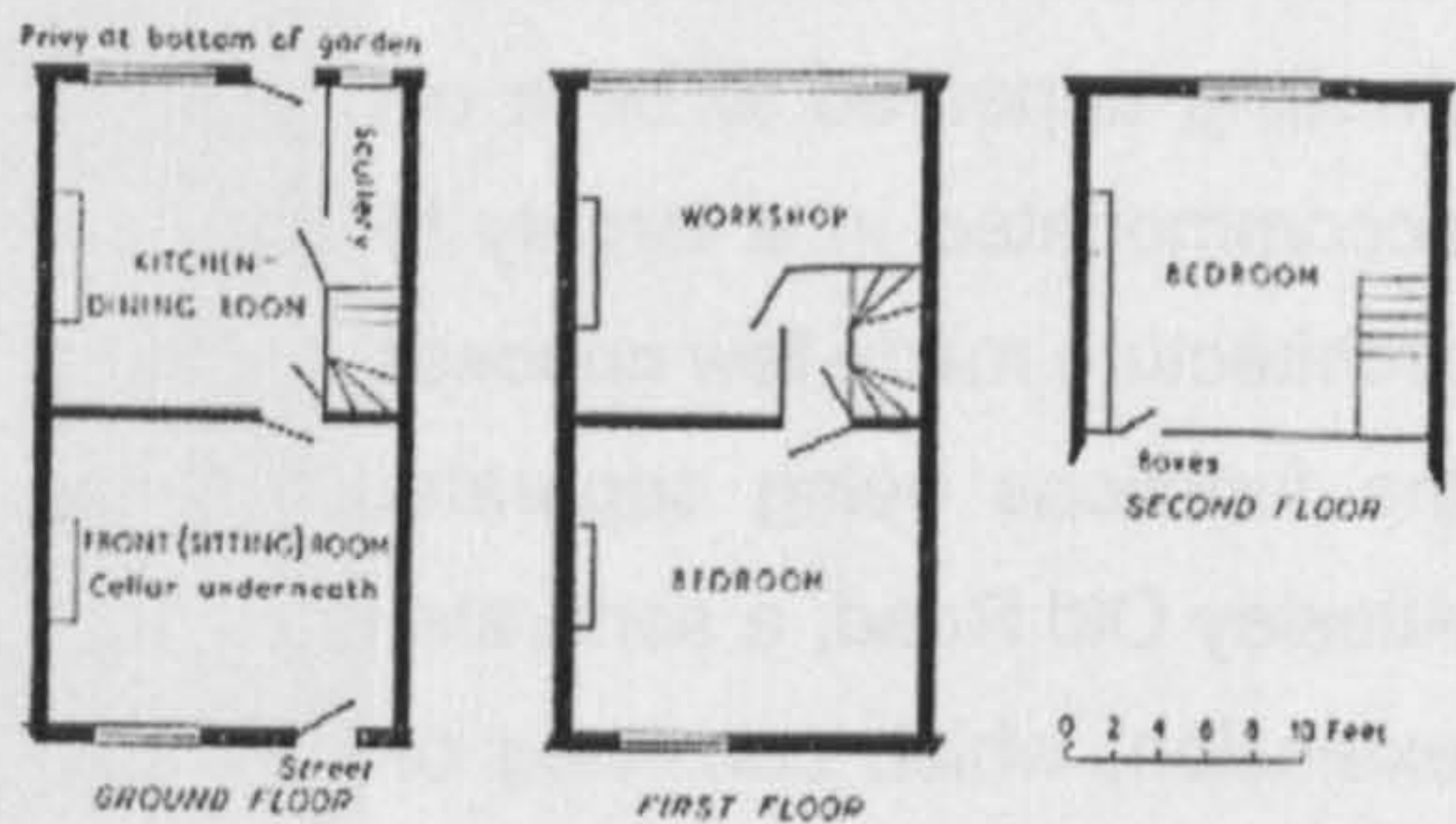


Figure 45: Plan, 34 Craven St, Coventry



first floor workshop and office. The front sitting room was for the use of customers [fig 42, 43]. The house had three staircases, one for the family's domestic use, a second for the family's productive work use and a third, accessing the workshop directly from outside, purely for the use of for employees, many of whom did not live on the premises. Servants' rooms were tucked into the second-floor attic.

The journeymen watchmakers' houses were smaller and simpler, reflecting the less complex business being carried out in the house. In the case of No. 34 Craven Street, the workshop was on the first floor, a type sometimes called the 'middle-shop'. Once again, this appears from the street to be a purely domestic building, the 'work' function only being expressed on the rear elevation⁸¹ [fig 44,45].

Another group of people who worked in their homes in the seventeenth and eighteenth centuries were the stocking or framework knitters. Their small, detached frame-knitting workshops, containing between 5-20 stocking-frames, were usually located adjacent to both the master's house and the smaller dwellings of the workers⁸². The inherent intricacy of the process of knitting, using a single continuous thread to produce row upon row of looped fabric, meant that it was mechanised late and it was not until the second half of the nineteenth century that steam-powered knitting machines operated in a factory situation⁸³. Initially⁸⁴ the stocking-frames were accommodated in the living room⁸⁵, but gradually part of the house was set aside as a frame-shop which, once again, was usually located in the upper floor of the house, incorporating long windows

⁸¹ A variation on this theme is the 'over and under' terrace of Hebden Bridge, built at the turn of the eighteenth/ nineteenth century. Marcus Binney tells how, "in the fast-growing textile town set in steep-sided valleys", the lack of building land led to the development of a building form which on one facade appears to be a two storey terraced house, while on the other it appears to be a four storey workshop with many tall windows allowing the maximum amount of light to enter. These houses contained workshops where the corduroy was woven. In one of these terraces, called Machpelah built by the Reverend Richard Fawcett in 1805, the gable end contains two rows of windows which lit the corduroy-makers' workshops.

⁸² Mary Smedley, a Midlands local historian, writes that 'the frame-work knitters worked from home, having either a frame shop or workshop in the garden or a special room on the top floor of the house with an especially wide window to let in the maximum light for the stockinger to work'. Smedley, M. (2005).

⁸³ The invention of the first knitting machine being attributed to one Reverend William Lee, curate of Calverton in the county of Nottingham in 1589. Queen Elizabeth was introduced to hand-knitted silk stockings in 1560 and became the first person in England to own a pair, See *Ye Historie of ye First Pair of Silk Stockings made in this Country and Worn by Queen Elizabeth*. (1884) John Alexander. Before this time stockings were made from woven cloth, cut to the shape of a leg, with the edges sewn together, which would have been neither very comfortable nor very elegant. The Queen decreed that she would no longer wear cloth stockings, leading to an almost insatiable desire for knitted stockings throughout the country as the courtiers followed her example, thus launching the English knitting industry. Lee's machine initially knitted only a coarse woollen textile and was refused a patent by Queen Elizabeth in 1601, in part because she did not like the quality of fabric the machine produced but also because she was concerned about the potential loss of employment to the hand-knitters that the development of the machine would have involved. Lee died 'a broken man' around 1612 or 1610 having failed to launch his remarkable invention according to Felkin, W. (1967). The history of knitting is largely drawn from www.knittingtogether.org.uk, website of the East Midlands Knitting Project

⁸⁴ By the 1620s there were still fewer than 100 stocking knitting machines in use in England, however by the late eighteenth century there were about 20,000, over 17,000 of which were in the East Midlands.

The workhome... a new building type?

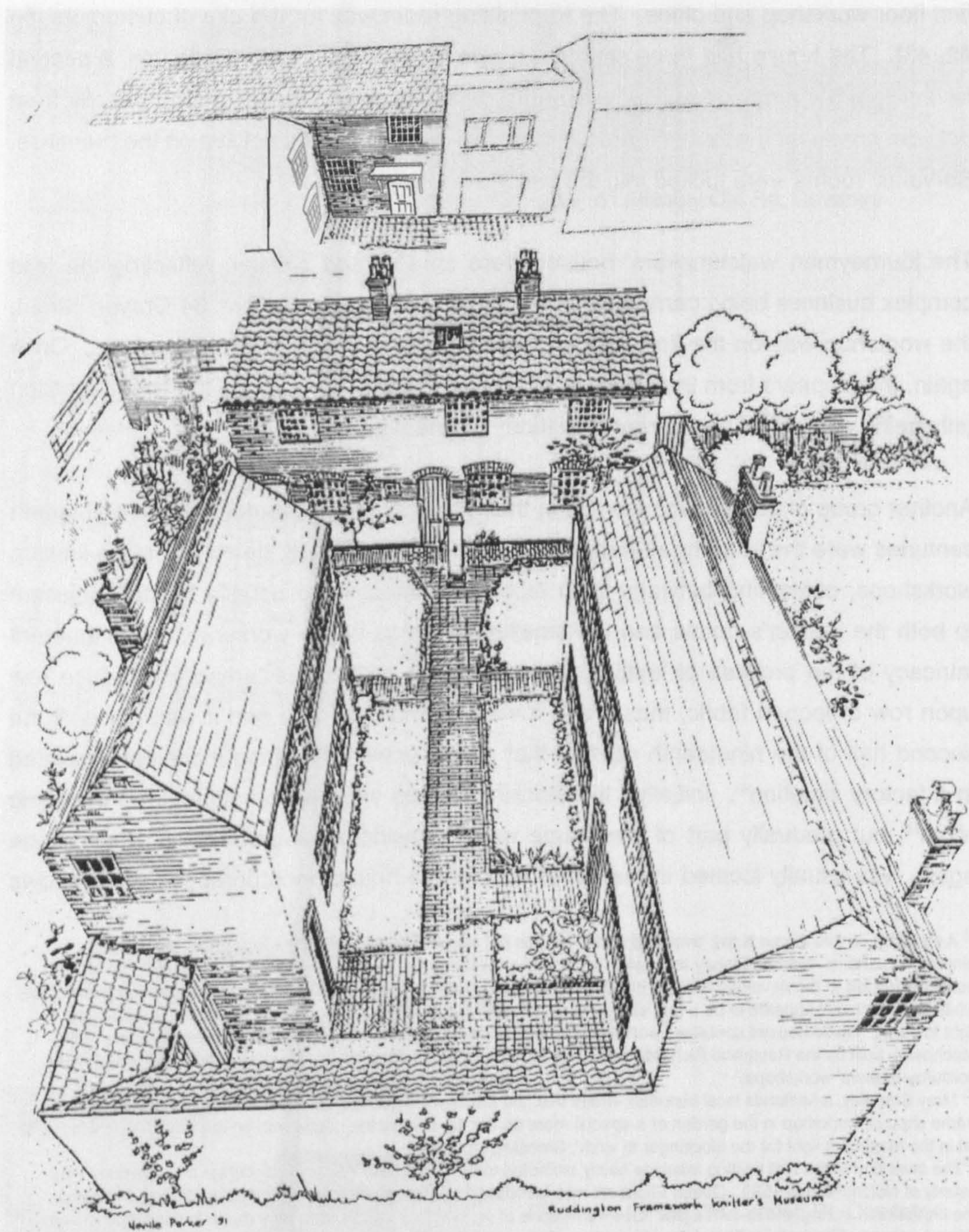


Figure 46: Ruddington Stocking knitters complex

to maximise natural light (Felkin, 1867 p117). This was a built form that continued to be popular well into the nineteenth century and continues to have relevance today.

An example of this arrangement has been preserved at Ruddington, near Nottingham, which had 69 frame-shops in 1844 containing 330 frames between them (Felkin, 1967), suggesting an average of four or five frames per workshop. In 1829 a stocking-knitting complex was built, comprising five cottages, two frame-shops, a chapel and a range of communal facilities including a chapel, a laundry, a pump, a wash-house, a bake-oven, a privy and a pig-sty (Shrimpton, 1989), which give some idea of the lifestyle of these villagers [fig 46]⁸⁶. Facilities for productive and reproductive work were built side by side. Men, women and children contributed to the process of knitting and the domestic work would have been carried out in the context of, and interspersed with, this productive work. Both master and employees lived adjacent to their workplace, a self-supporting community.

The practice of home-based work was not restricted to the manufacturing classes. The diary of Samuel Pepys, Naval administrator, written between 1660 and 1669, provides a contemporary description of the social and economic life of a member of the English upper middle class, throwing further light on seventeenth century home-based work. His birth in 1633, son of a former wash-maid and a tailor, took place in the room above his father's tailor's shop in Salisbury Court off Fleet Street:

"The Pepys house centred around the shop and cutting room, with their shelves, stools and drawers, cutting board and looking glass. At the back the kitchen opened into a yard, and in the cellar were the washing tubs and coal hole, with a lock-up into which troublesome children or maids might be put for punishment. The stairs to the living quarters went up at the back. Timber-framed, tall and narrow, with a jetty sticking out over the street at the front, set tight against its neighbours, with a garret under its steeply pitched roof; this was the pattern of ordinary London houses. On the first floor the parlour doubled as dining room. Above there were two bedrooms, each with a small closet or study opening off it, and high beds with red or purple curtains. In one of these Pepys was born and spent his first weeks. Older children, maids and apprentices slept on the third floor – Pepys mentions 'the little chamber three storeys high' – or in the garret, or in trundle beds, kept in most of the rooms, including the shop and the parlour; sometimes they bedded down in

⁸⁵ Felkin reported his findings on the accommodation of French framework knitters to the Royal Commission Enquiring into the Condition of Framework-Knitters in 1845. Outlining the industry, which remained a 'domestic employment', he described each house as having up to five stocking-frames in their living room, which also contained, in one case, "a square horizontal piano-forte and five other musical instruments and 20 or 30 larger or smaller volumes of books upon the shelves" and was "...as clean and decent (a room) as the one we are sitting in..." Royal Commission enquiring into Conditions of Framework Knitters (1845)

⁸⁶ Although the frame-shops were built as an integral part of the original development, they have been rebuilt at some point.

The workhome... a new building type?

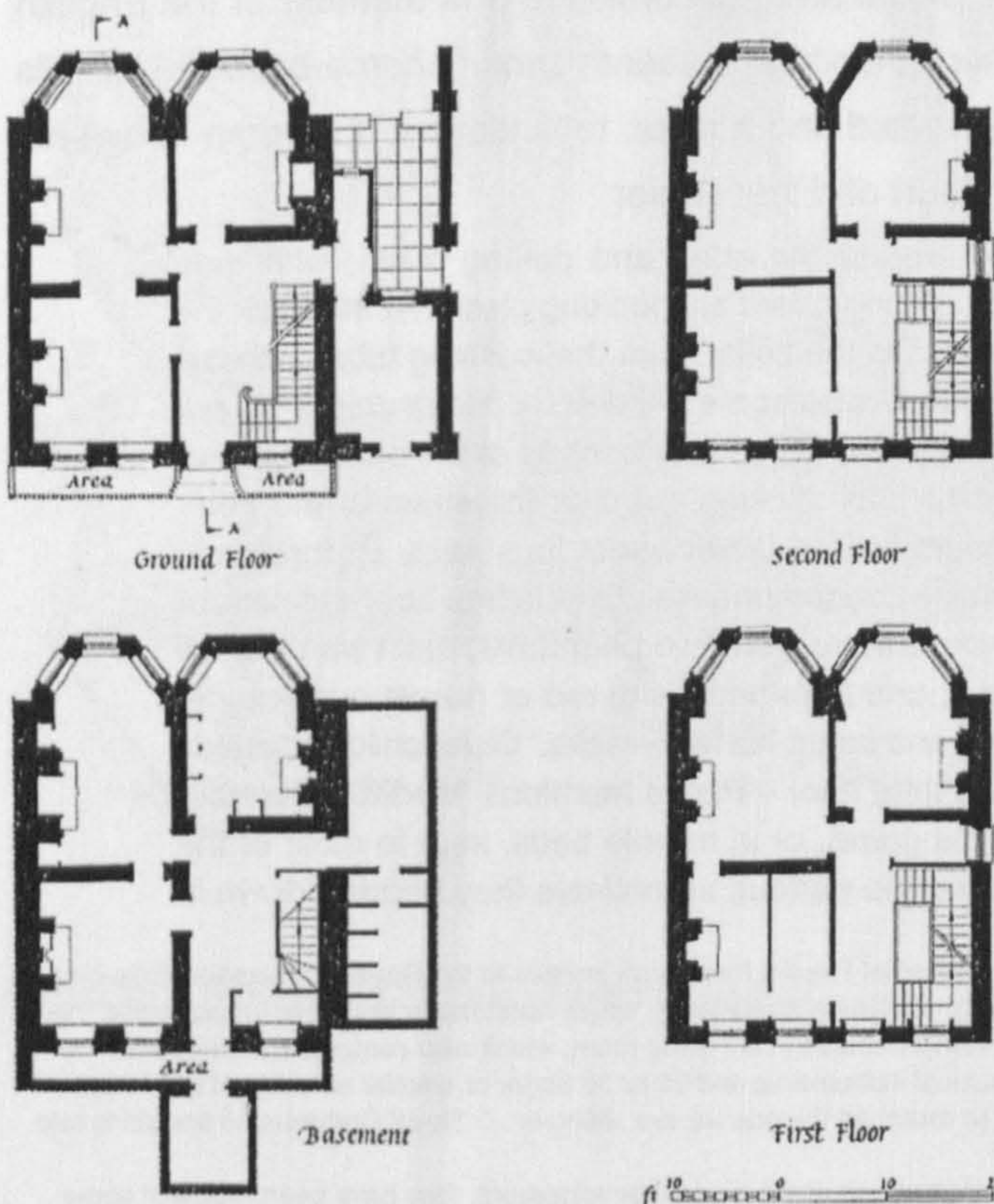


Figure 47, 48: View and plans, The Rectory to Christchurch, 2 Fournier St, Spitalfields.

the kitchen for warmth. " (Tomalin, 2002 p3-4)

The pattern of inhabitation of the house had probably been more or less constant since its construction in medieval times. The family, servants and apprentices ate and slept on the floors above the street-level 'work' space. Although there was a functional differentiation between the spaces used for tailoring and those in which the family lived, and a clear distinction between the public and private parts of the house, the lifestyle indicated is one in which productive and reproductive work were combined in a single building, revolving around the tailoring business.

Pepys rose to a position of considerable wealth and influence as a Naval administrator. Between 1660 and 1672, he lived with his wife and servants in his official residence at the Navy Office in Seething Lane, described by his biographer as "a very large, rambling building divided into five substantial residences and office accommodation with a courtyard and a communal garden." (Tomalin, 2002 p111).

"Pepys's office, the centre of his working life, was across the courtyard from his house. In a few steps he was at his desk, and in another few he was home again, and he went to and fro from early morning until midnight and after."
(Tomalin, 2002 p133)

The proximity of this office, although in a separate building, invites its inclusion as a home-based work arrangement. The pattern of his life, lacking regular office hours, is similar to that of many contemporary home-based workers.⁸⁷

In reality, both members of the upper classes and their servants were engaged in home-based work, but servants are often ignored in this context. In proto-capitalist England, their position was similar to that of some journeyman weavers, distinct because they lived at their workplace and consequently had little control over their circumstances. It is often little different for contemporary domestic staff.

The mews coach-house and stable, usually inhabited by the male servants employed in the eighteenth century Georgian house, and their families, is of particular interest as a purpose-built workhome.

"The typical site of a London house is ...a long strip of ground running back from the street. The house covers the front part of the street, the middle part is garden or courtyard, and at the back is, in the larger type of house, a coach-house and stable served from a subsidiary road." (Summerson, 1962)

⁸⁷ Nos. 10 and 11 Downing Street are contemporary examples of home-based work in which high-ranking politicians and administrators combine their official residence, offices and family home within one building. The clergy form a further category of professionals who live and work within the same or adjacent buildings. The rectors inhabiting the rectory at no. 2 Fournier St, built next to Christchurch, Spitalfields to plans by Hawksmoor in 1726, (See Fig 47, 48) have divided the 'work' aspect of their lives between the house itself and the church next door for nearly three centuries.

The workhome... a new building type?

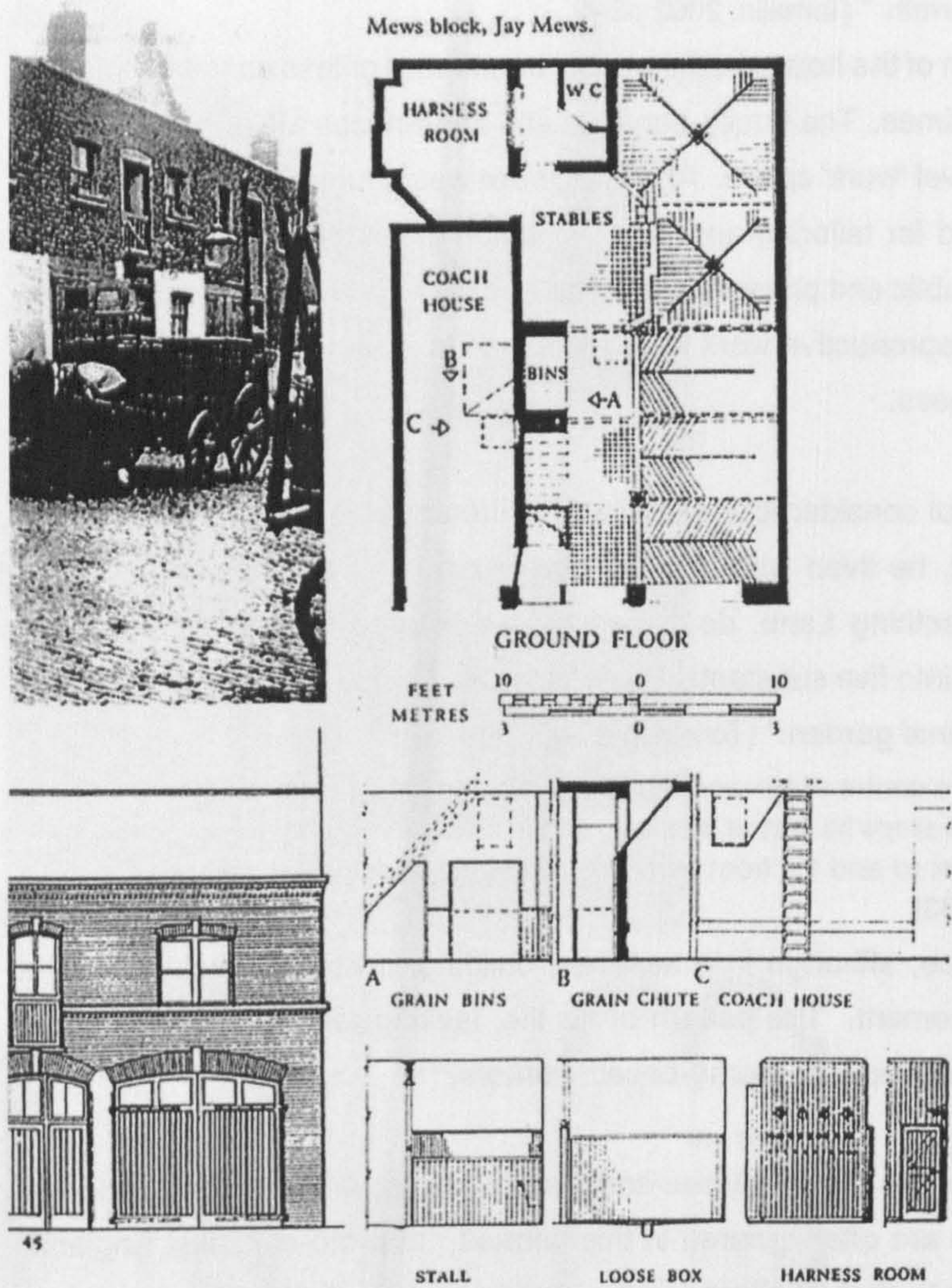


Figure 49: Jay Mews



Figure 50: Upper Montague Mews

p44)

The inhabitants of the grandest 'first rate' Georgian house often included around 14 servants, some of whom would have slept in the mews buildings at the bottom of the garden (Cruickshank and Burton, 1990 p60). Servants were often segregated by gender, the women sleeping in the house and the men in the outbuildings, although this was not always the case, as a contemporary diarist noted in 1756:

"If the garrets are too small to serve as servants' accommodation or the servants too numerous, a bed for a man or two maid servants is contrived to be let down in the kitchen" (Cruickshank and Burton, 1990 p52)

Coachmen and their families, grooms and stable boys lived in the mews, the grooms and stable boys often sleeping in the hayloft above the horses. In 1851 the social commentator Henry Mayhew wrote:

"...The mews of London constitute a world of their own. They are tenanted by one class – coachmen and grooms, with their wives and families – men who are devoted to one pursuit, the care of horses and carriages..." (Mayhew 1851 cited in Rosen et al., 1982 p 10)

Rosen and Zuckermann, in their cameo on the mews, describe a wide range of people who both worked and lived in the mews, mentioning...

"...victuallers, chandlers, builders, servants and a chimney sweep [are] among the inhabitants in addition to wheelwrights, farriers, stable-keepers and coachmen." (1982 p22)

They found that:

"Every inch of space was needed on the ground floor for the coach house, stalls and loose box, harness room, grain bins and WC, not to speak of stairs to the upper quarter, if the coachman and his family were to be left with liveable space upstairs. Examining the 1871 census results for an area of Kensington, the Survey found that 114 of the 120 coachmen in the sample were married, and many had children, grooms and other servants living with them as well." (1982 p22)

Ernest Shephard, the illustrator of Winnie the Pooh, recalled the nearby mews of his childhood visits as...

"...a most interesting place with plenty going on – horses being groomed and harnessed, carriages being washed or polished, the grooms hissing and whistling at their work. Strings of washing hung from the upper windows, whence the womenfolk leaned out and chatted to the men below." (1982 p24)⁸⁸ [fig 49, 50]

No. 18 Grosvenor Square, [fig 51] was rebuilt on an enormous scale in 1865-6, for

⁸⁸ The Medical Officer for St Pancras, however, commented in 1859 that: "The staircases are narrow and dark; the rooms are small and low; under the stairs is a damp, dirty and offensive privy... The water tank is close to the privy and its contents are ... charges with effluvia from it. There is no back ventilation... Each room is occupied by a family". Rosen B & Zuckermann, W., (1982) p 24.

The workhome... a new building type?

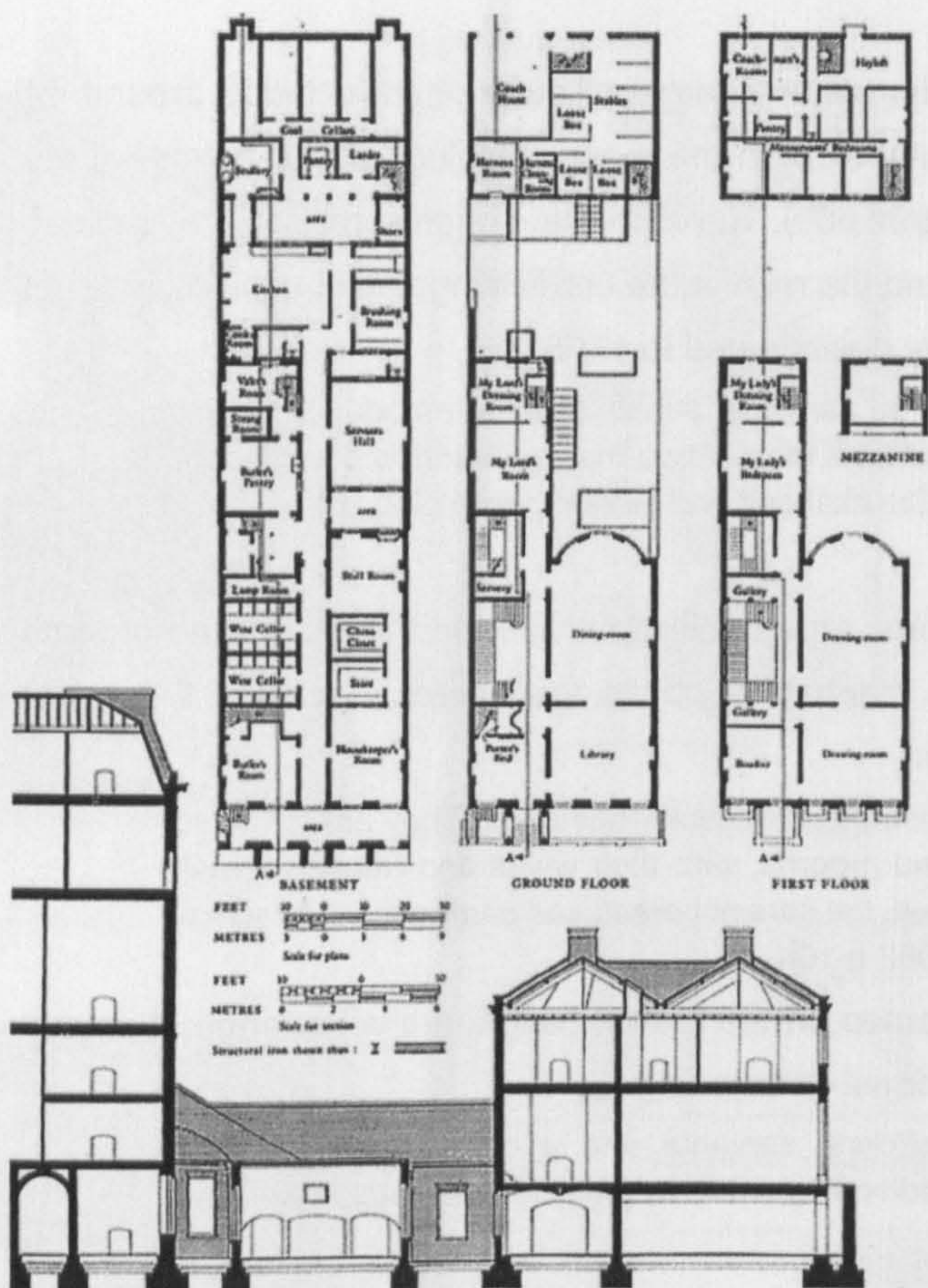


Figure 51, Plans, section, 18 Grosvenor Square, London

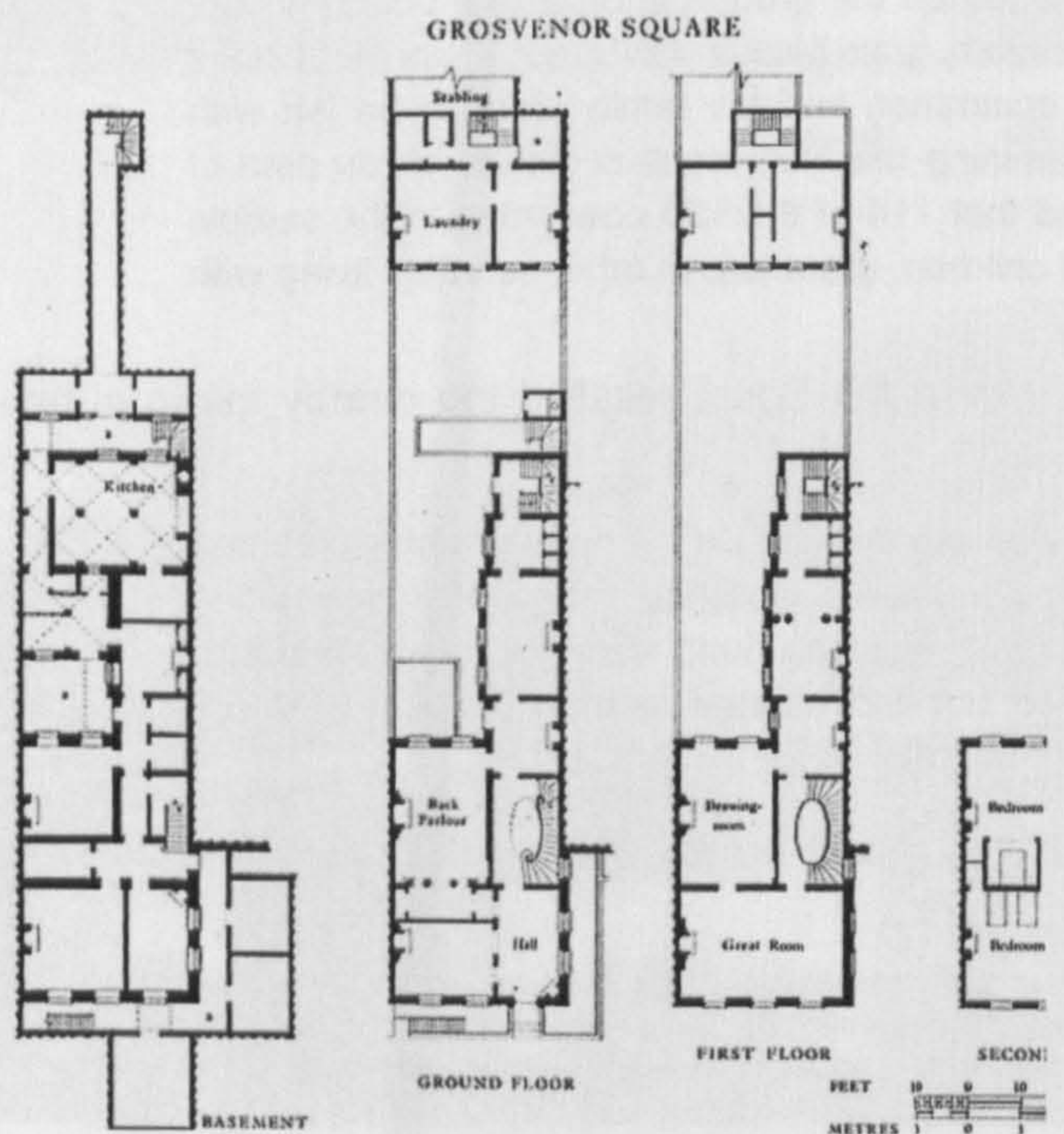


Figure 52, Plans, 50 Grosvenor Square, London

the third Earl Fortescue and its grandeur has ensured that its documentation in 'The Survey of London' (Sheppard, 1957) is sufficiently detailed to include its servants' accommodation. Built on six stories, the plans show that the more important domestic servants, the butler, the housekeeper, the valet and the cook, slept in the basement, the cook in a small alcove off the kitchen. The remaining female domestic servants slept in the garret. Menservants, grooms, coachmen and the coachmen's families lived in the coach-house, a separate building at the bottom of the garden forming part of a mews accessed via a small road running parallel to the main street. A staircase led down from the mews into the basement of the main house, which stretched the full length of the site, gaining low levels of natural light from an area to the street and three roof-lights. The men-servants, while sleeping in the mews, would have eaten in the basement servants' hall, but their wives and children presumably cooked and ate in the mews. In slightly less grand houses such as No. 50 Grosvenor Square, an underground passage linked the coach-house with the basement service rooms of the main house [fig 52]

The population of England, rich and poor, urban and rural, continued to work at home, or live at their workplace, throughout the proto-capitalist period. Loath to give up the freedom to work when they liked, the Coventry weavers were able to continue in home-based work as a result of the development of the cottage factory, despite the onset of industrialisation. Developments in building technology led to the construction of workhomes in which the dual functions were expressed in the form and elevations of the buildings. Large expanses of glazing were introduced for occupations that needed high levels of natural light, and non-domestic scale spaces were built around tall machinery or occupations that needed large volumes. These were juxtaposed with traditionally domestic-scaled windows and spaces to produce an idiosyncratic architecture. Industrialisation had a major impact on the nature of manufacture in England, however its impact on home-based work was more complex than is often acknowledged.

Nineteenth century 'workhomes'

Technological innovation and the growth of capital transformed the landscape of employment in eighteenth and nineteenth century England. In the textile industry, a series of machines was invented between 1733 and 1785 that enabled one person to do what had previously been the work of 15 or more⁸⁹, thus vastly increasing productivity and changing the nature of textile production. Many weavers and spinners, who had

⁸⁹ 1733: John Kay's flying shuttle; 1763: James Watt's steam engine; 1764: James Hargreave's spinning jenny; 1769: Richard Arkwright's water frame; 1779: Samuel Crompton's 'Crompton's mule'; 1785: Edmund Cartwright's power loom.

The workhome... a new building type?

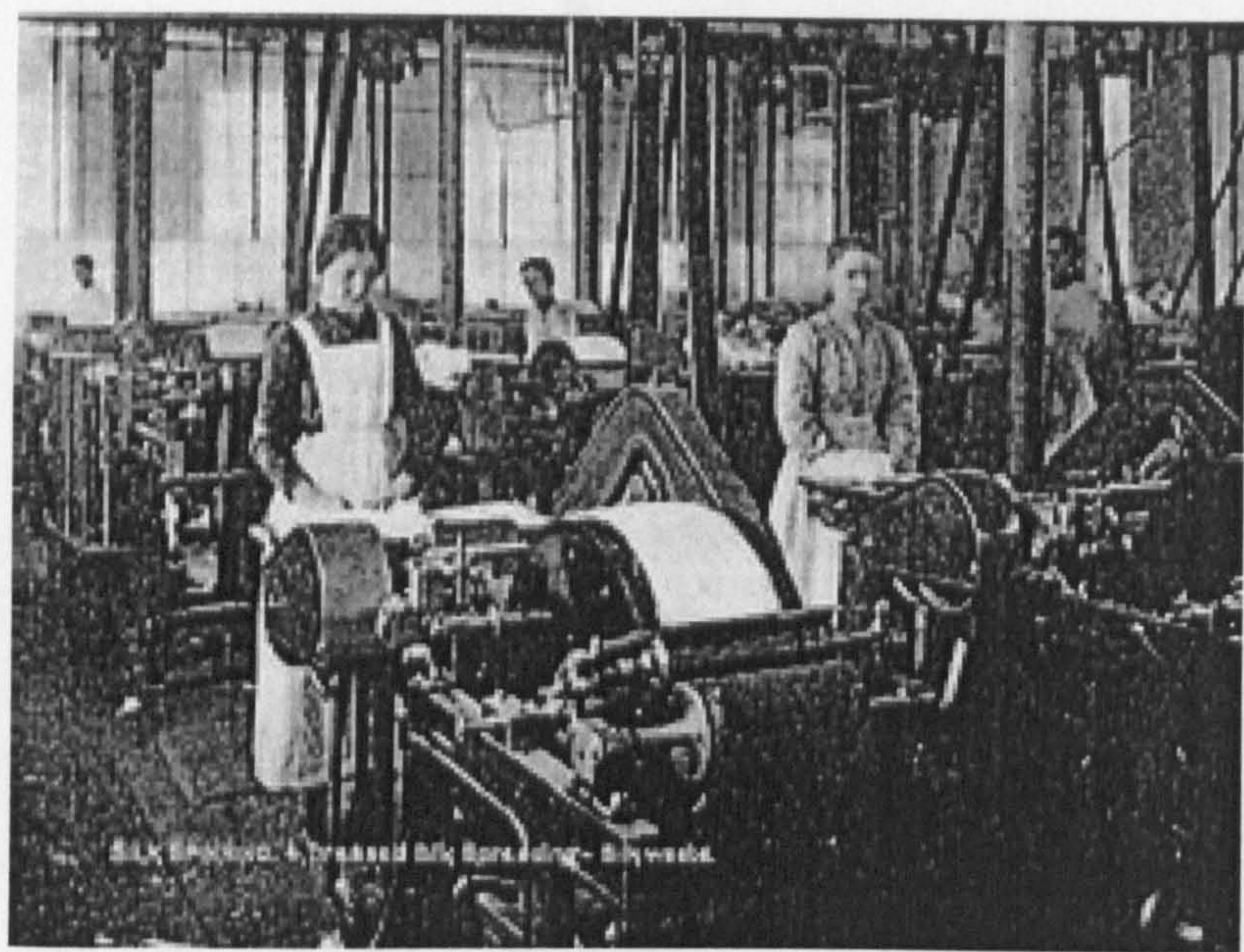


Figure 53, Factory based silk manufacture

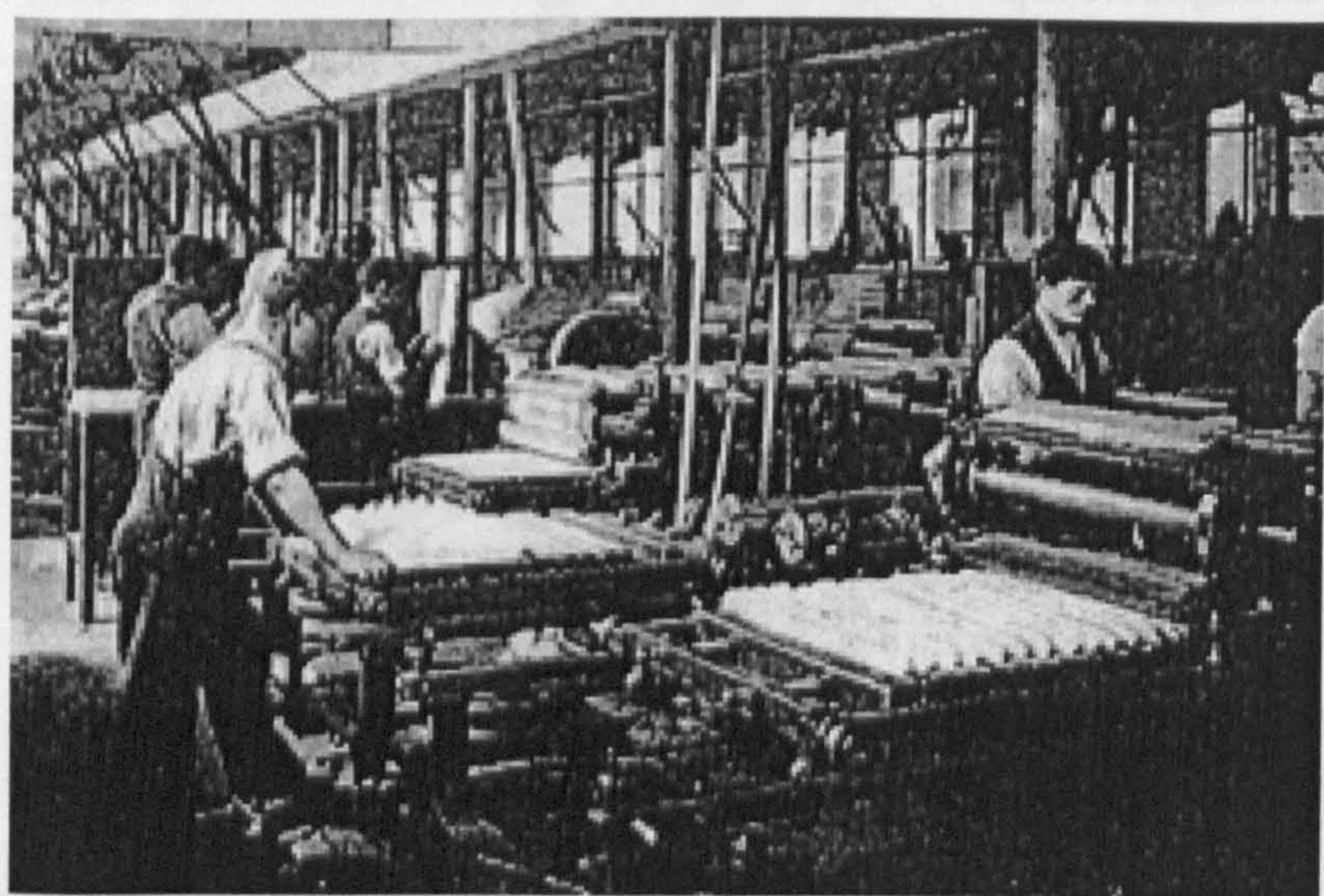


Figure 54, Factory based silk manufacture

previously earned their living working at home on their own hand-machines, began to work in large mills or factories, on power-driven machines owned by their employers [fig 53, 54]. What had been a home-based craft became a factory-based industry. This process was repeated in other areas of manufacture until, by mid-nineteenth century, Britain was the most industrialised country in the world, producing more than half its cloth and iron.

In the century preceding 1900, a vast influx of people, the result of the combined forces of industrialisation and the Enclosure Acts, changed the cities of England beyond recognition. London's population grew six-fold, to six million. Poverty and deprivation were commonplace, a result of the punitive conditions of employment imposed by the early industrialists. Children worked in the factories⁹⁰, and the elderly, sick and disabled had to fend for themselves as best they could. Crime, as portrayed by Dickens in 'Oliver Twist' (1839 -b) or Stedman Jones in 'Outcast London' (1976), was rife. The huge increase in population stretched the resources of the city to beyond breaking point, leading to overcrowding. Families often lived in a single room (see Sherwell, 1897). Conditions were dangerously insanitary; mains drainage was not introduced until 1859⁹¹. Despite its function as a makeshift sewer to the city, as the river Thames was also the main source of drinking water until the installation of domestic drinking water supplies in 1875, and disease was widespread as a result of the contaminated drinking water and poor living conditions.

During the same period, Britain was expanding its empire. Once Wellington had defeated the French at the battle of Waterloo in 1815, Britain became the dominant military power globally. With the strength to control safe trade routes and colonies, British merchants traded freely all over the world, growing wealthy and, through their consumption habits, enabling London's shopkeepers and suppliers to grow wealthy too. The financial institutions of the City, supporting much of this international trade, grew to dominate global financial affairs. In 1832 Nathan Rothschild commented that London had become "...the bank for the whole world." (Museum of London website, 2005). Armies of clerks were needed to keep these financial cogs turning and a new employment class emerged, the City office worker. Swathes of countryside around London were developed as quiet, low-density, largely residential suburbs such as Holloway and Stoke Newington, primarily to

⁹⁰ Until an Act was passed in 1870 which introduced compulsory education for children between 5-12 years old

⁹¹ When the engineer Bazalgette built 450 miles of mains sewers and 13,000 miles of smaller local sewers, following the summer of 1858, called the 'big stink', when an unusually warm summer, combined with the popularity of Crapper's recently invented flushing toilet, led to Parliament having to close because of the intolerable smell from the River Thames.

The workhome... a new building type?

house these many clerks. As the city came to be seen as the embodiment of everything evil and dangerous, the middle classes relocated to the suburbs, the invention of the tram, omnibus and railway⁹², enabling them to live at a distance from their work (Briggs, 1968 p14).

This is the classic characterisation of nineteenth century England, a nation divided by class, with the poor living in atrocious conditions and working in factories while the middle classes retreated to the suburbs, emerging only to go to work in the City. While all this is true, it only represents a partial truth, and it is the other part of the story that is of interest in this thesis. Although industrialisation and the development of public transport systems did lead to a large proportion of the population 'going out to work', a substantial proportion of the population continued to work in their homes, often in buildings that were specifically designed for the purpose. For both rich and poor, there was an ongoing tradition of working at home or living at the workplace that has become invisible as the entities of 'work' and 'home' have frozen in their separateness, in terms of both buildings and governance. For some, home-based work enabled the necessary integration of domestic and caring responsibilities with paid employment. For others, such as the publicans, caretakers, proprietors of hotels or lodging houses, undertakers, shopkeepers, nurses, nannies, domestic servants or prostitutes, it was the result of intrinsically long or antisocial hours. It was also often a means by which a small 'manufactory' was set up.

Evidence of this is contained in the survey of poverty in London made between 1889 and 1903 by Charles Booth, a wealthy Liverpoolian businessman with a profound concern for contemporary social problems. When, in 1885, an inquiry into poverty claimed that 25 per cent of the population of London lived in extreme poverty, Booth was sceptical and suggested that the case had been "grossly overstated" (Hyndman, 1911 p311, cited in Charles Booth Online Archive, 2004). In order to establish the facts, he set up his own empirical study of poverty and deprivation in London. His team of researchers walked every street of London twice and interviewed many individuals about their lives, recording what they saw in more than 350 notebooks. The results of the inquiry showed that conditions were far worse than had previously been imagined, with 35 per cent of the population living in extreme poverty. Booth's work laid the ground for the first Old Age Pension Act, passed in his lifetime in 1908, and for much other legislation regarding welfare systems.

⁹² 1829: first horse-drawn omnibus in London; 1836: first passenger railway opened (it travelled from London Bridge to Greenwich); 1861: first horse drawn tram in London; 1876: invention of internal combustion engine; 1890: first electric underground train opened in London (it travelled from the City to Stockwell and carried only 96 people at a time); 1903: first electric tram in London; 1910: first motor bus service in London.

The workhome... a new building type?

Although Booth's interest was poverty, his survey was so detailed that it can be used to extract other information. It contains observations of the daily lives of the people of London, including descriptions of their paid employment and its physical context, and therefore provides evidence of the extent to which people worked at home. The notebooks⁹³ indicate that people of all classes continued to work at home, either in their dwelling, or in an adjacent building or yard. Even the factory workers tended to live in either the same street as their workplace, or in an adjacent street. In general it was only those employed in the City who travelled any distance to their work. An analysis of all the references to people working at home in South-East London and in the Bethnal Green and Hackney areas of North-East London shows more than 120 different home-based occupations [see Appendix 2].

Booth's notebooks provide copious evidence of home-based manufacture, referring to 66 different home-based manufacturing trades⁹⁴, the clothing, boot-making, and cabinet-making industries being the most frequently mentioned. Those manufacturing at home fell into one of three categories, 1) the highly skilled and comparatively well-off master-craftsmen or women employing a small workforce in their homes, 2) those making items 'on their own account' in their homes, and 3) the mostly female 'homeworkers', working excessively long hours for little return, paid by the piece for items manufactured or 'finished' in their homes. Booth noted many examples from each group, often describing the spaces in which they lived and worked, the following interviews with brush-makers illustrate all three⁹⁵:

Mr Webber, a small master, had a

"...two roomed house with a yard at the back covered in and used as a factory. Would probably employ six to eight hands in the factory when full at work".

Mr Bromfield was

"...a small master working with wife and son. The three of them work in the kitchen and a diminutive workshop reclaimed from the yard. It is very untidy, bristles and shavings lying in every direction. They keep a little room at the front for visitors 'in case a body should chance to come in we don't want 'em to think that we always live like pigs.'"

...and Mrs Smith, a

"...married woman with baby and small children. Takes in 'drawing' at home – cannot do a great many hours of work a day, having to look after the family ... a clean and tidy woman... room carefully kept and baby very ill. Started

⁹³ Those for South East London are transcribed by Jess Steele in *The Streets of London: The Booth Notebooks South East: a Portrait of the late Victorian Capital* 1997. All the originals are held in the Booth Archive at the LSE library.

⁹⁴ In the notebooks for South-East London, Hackney and Bethnal Green alone.

⁹⁵ Booth's notebook no B98: Brushmaking p 38

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Figure 55. A family of brushmakers

work at eight years of age". [fig 55]

Even in the textile industry, where the adoption of power-driven machines had led to most cloth-making processes being carried out in large factories, Booth found many weavers continuing to work on handlooms at home, sometimes in the original garret loom-shops that were built for the eighteenth century Huguenot silk-weavers⁹⁶. In addition, while the production of the first commercially successful sewing machine in the 1850s⁹⁷ had led to the partial industrialisation of the clothing industry, it continued to be predominately home-based. Booth describes the structure of its juvenile branch:

"The trade may be divided into two sections a) large workshops sometimes deserving the name of factories, in which all parts of the work are done on the premises, b) shops in which all the machine work is done while the finishing is given to women working in their own homes. ...No special buildings are required but private houses or parts of houses are adapted so far as may be by the requirements of the trade. In these shops, the workers, as in the other class, will be young women who will do all the work except the finishing, and this will be given to homeworkers, usually married women who, unable to come to the factory, are glad to earn the poor pittance paid for this work... One man said that he had over 80 women call one day when he put up a notice for workers and all of those wanted homework. He was compelled to alter his notice."⁹⁸

A number of master-clothiers were interviewed by Booth's inquiry, each employing a workforce of between 7-25 people in their homes. One of the interviewers, identifiable only through his/her handwriting, made 11 detailed descriptions of their workshops, thus providing evidence of the spatial organisation of the work [see Appendix 3]. Of these, six were located in the back yard of their houses. In one, the workshop...

"...carried forward into the house, absorbing what was formerly the back parlour (Mr M said formerly it included the front room, but the trade decreasing he had partitioned that off.)."⁹⁹

In another the parlours were used as...

"...receiving and checking rooms and Mr M had an office at the top of the house into which I was shown".¹⁰⁰

Four interviewees had large workshops that occupied the top storey of their houses and one, a waistcoat maker, used his parlour as his workshop, where he "...employed four machinists and 'some girls'". The interviewer noted that four of the workshops were

⁹⁶ Booth's Notebooks B350 Bethnal Green: walk on Jan 3 1898 Briersley, Glawber, Wharncliffe, Hunslett and Stainsbury St; B351 Bethnal Green: walk on March 28, Sealbright St, Viaduct St,

⁹⁷ by Isaac Singer

⁹⁸ Booth's notebook A19: Tailoring and Bootmaking p188

⁹⁹ Booth's Notebook A19: Tailors and Bootmakers p103

¹⁰⁰ Booth's Notebook A19: Tailors and Bootmakers p103

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sky-lit, while one of the top storey ones was "...lighted back and front". One, with a "...large skylight extending the whole length of the room" also had six ventilators, a coke fire and a brick stove. In one it was mentioned that there were two WCs, "...one at the end of the shop for the males and the other in the house for the women"¹⁰¹. One elderly cabinet maker worked with his son, their workshop being at the rear while "...the shop in front [was] occupied by his wife who is a milliner"¹⁰² ...suggesting an integrated family economy.

It is possible to start to build up a picture of the life of these clothing workers and the buildings they inhabited from these descriptions. However, many aspects remain unclear, such as whether the apprentices or any of the employees also lived on the premises, what breaks they took and whether they went home for lunch or were fed on the premises as part of their remuneration. There is no mention of the overlap between the domestic and the employment functions at the start and finish of the working day, particularly for those working in workshops at the top of the houses. No evidence has been found to show whether the employees arrived punctually, all at the same time, and were then ushered swiftly through the 'house' and up to the 'workshop', without making contact with the family of the employer on the lower floors, or whether they drifted in, wandering up to the top floor having greeted the other members of their employer's household. It is not clear whether the house was primarily a dwelling with an isolated workplace incorporated in the attic or yard, or whether the whole building was devoted to the business, around which the domestic arrangements were carried on, or whether there was a switch, inside or outside 'working hours'. Or whether it depended on the character of the employer and their relationship with their employees. Perhaps it took a different form from one establishment to another.

Women's work was often focused on needlework and dressmaking, many women running their own dressmaking businesses from home.

"In some cases the warehousemen have their own workshops and employ their own hands, in other cases the work is given to out-workers, either Jews or women who employ a number of girls in a workroom at home."¹⁰³

They...

"...require(d) but little capital and a room to work in, which may also serve as the living room for a time. Such businesses are usually started by women who have worked in West End shops but who, for domestic or other reasons, prefer to work at home. Here, aided by an apprentice or, if her connection be

¹⁰¹ Booth's Notebook A19: Tailors and Bootmakers p103

¹⁰² Booth's notebook A6: Cabinetmakers p 253

¹⁰³ Booth's notebook A6: Cabinetmakers p45

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large enough, a few other girls, the dressmaker cuts up and puts together her clients' materials".¹⁰⁴

For some, such as this female needle-worker employed making capes, blouses and mantles, the home was a hive of activity, providing employment for the family:

"...[she] has whole eight roomed house, lets several rooms. Employs her two daughters and two other young women. Has five machines, one for buttonholes."¹⁰⁵

Such businesses were usually advertised through 'plates' on the front of houses or cards in their windows¹⁰⁶.

The Women's Industrial Council, concerned about the plight of the poorest homeworkers, carried out a survey in 1897 in which people were found to be making anything from ties and umbrellas to matchboxes and artificial flowers in their homes. The interviewers were primarily interested in the levels of poverty and, indeed, the cleanliness of the homes they visited. The description of the spaces is secondary and often not included at all. However the survey gives an idea of the lifestyle and the pressures people were under. Mrs Guiter, an artificial flower-maker, lived in a...

"...very sloverly room. Scattered with bedclothes, breakfast things (unwashed)."

By contrast it was noted that the home of an artificial flower-maker, Mrs Brooks...

"...is very clean and comfortable and the woman seems a good manager"

Although an anonymous cardboard box-maker lived in conditions that were...

"...horrible. One room for everything and apparently three women and a man living in it."¹⁰⁷

The fur-pullers, interviewed as part of Ada Heather-Bigg's report¹⁰⁸, also presented appalling conditions. Many of her interviews indicated that this was a dirty and unhealthy occupation...

"...awful, work done in living room, everything thick with fur. Two women working, one had bad cough." "...Filthy home, small, horrible, fur choking up all the staircase." "...Work done in the bedroom. Filthy (Original emphasis). Six children." "...Dreadfully dirty. Smell of skins simply sickening. Two women working in one tiny room. Window wouldn't open. Work not done in living room, but fluff got everywhere." "...Husband out of work. She complained of work as being very unhealthy and bad for the chest. It ought to have a separate room set aside for it but they cannot afford it."

¹⁰⁴ Booth notebook A20 Dressmaking: p40

¹⁰⁵ Booth's document D6: homeworkers, interviewee no 4.

¹⁰⁶ Booth's document B346 p177

¹⁰⁷ Women's Industrial Council Homework Survey (1897) This survey was undertaken during the same period as Booth's survey. It is also held in the LSE Archive

¹⁰⁸ Booth's document D6: Homeworkers. This was unusual in that it is a typed document attributed to Ada Heather-Biggs. All the other documents in the Booth archive are un-attributed, hand-written by a number of different authors.

The workhome... a new building type?

As well as offering opportunities for 'start-up' businesses, and enabling women with caring responsibilities to earn their livings, there were further economic reasons for the continuation of manufacture in the home throughout the nineteenth century. The Enclosure Acts effectively threw hundreds of thousands of peasants off the land. When they arrived in the cities and towns, landless and unskilled, they often had no choice but to work in the factories, whatever the working conditions. This meant that even young children had to work at heavy, dirty and dangerous machines often for 14 hours a day, six days a week for very low rates of pay, fines being imposed for the slightest contravention of a set of oppressive rules. Militant workers across a number of different industries met secretly¹⁰⁹ and organised a series of strikes, which although usually ending in the use of strike-breakers and the sacking of the striking workers, led to the passing of legislation which legalised trade unions¹¹⁰. Once legalised, trades unions negotiated improvements in the conditions of work and rates of pay that were embodied in the Factories Acts, however, this increased the factory owners' labour costs and reduced their profits. As the regulation of conditions of work did not apply to people working at home, employers used the cheaper, non-union labour of the homeworkers, 'putting out' whatever work could economically be completed in the home, so they could pay less for its completion, not only in terms of wages, but also in terms of overheads, tools and often machinery.

There was also a group of workers which needed to work at home, and this contributed to the continuation of manufacture in the home in nineteenth century England. In pre-industrial times the care of children and other dependants was interwoven with productive work in and around the home. This became impossible with the invention of the factory system, the practice of 'going out to work' creating a crisis in the family. Although those looking after children, the sick and the disabled, primarily married women, were unable to go out to work, they needed to earn, and therefore constituted a workforce hungry for home-based work. However as they were in no position to negotiate rates of pay and it was in the employers' interests to pay them as little as possible, they were poorly paid. For the well-off women, working as an amusement to pass the hours of the day, the low levels of pay were not significant, as they were merely earning 'pin-money', to purchase luxury items for the home, or a trip abroad¹¹¹. Similarly, for those women whose earnings from their homework was used to supplement their husband's wage, the low rate of pay was balanced by the convenience of being able to combine some paid employment in the home with their domestic duties. It is probable that many women in both these

¹⁰⁹ Trades unionism was effectively made illegal in 1799

¹¹⁰ 1825 Combination Act

¹¹¹ Women's Industrial Council Homework Survey (1897)

The workhome... a new building type?

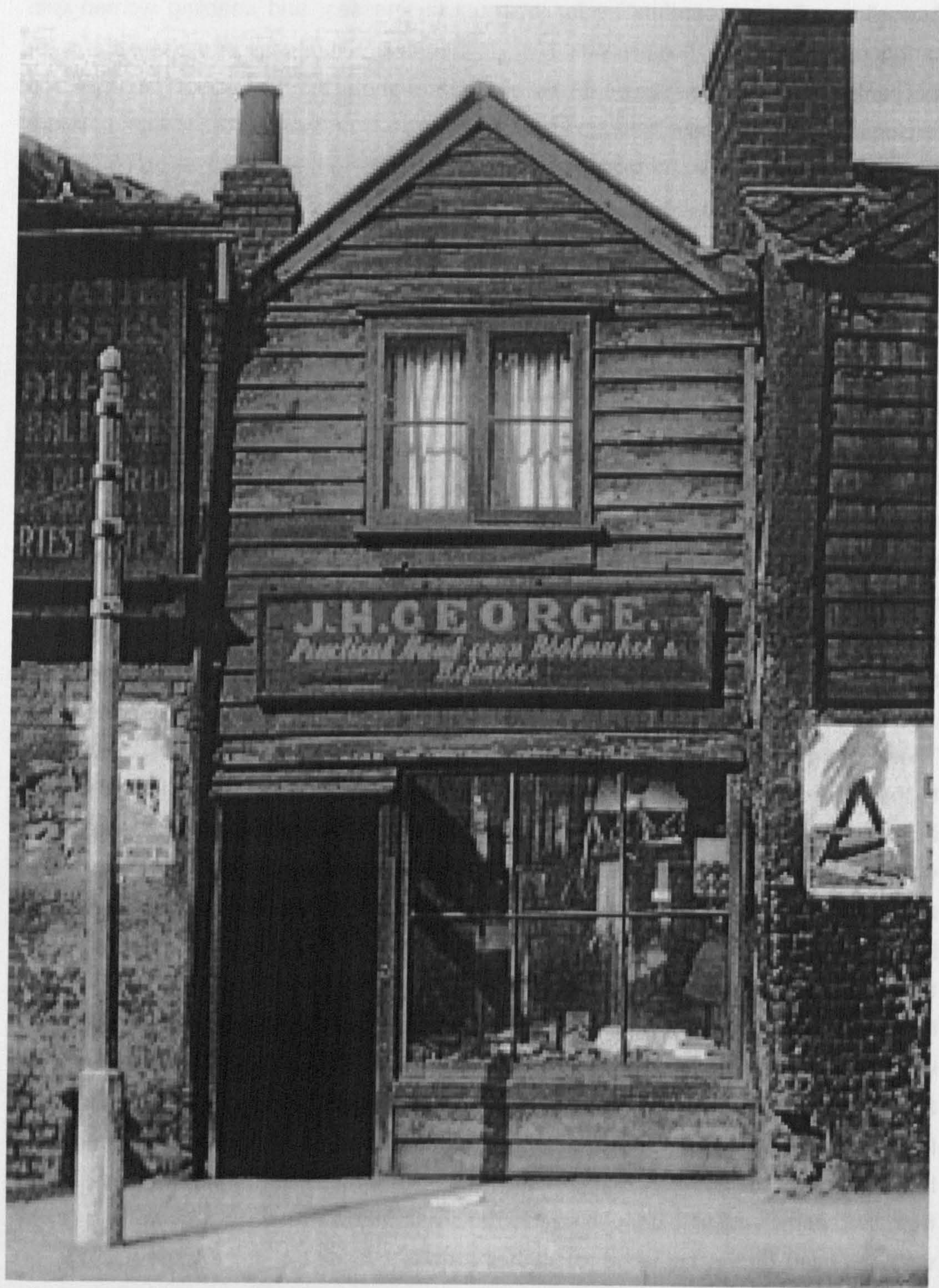


Figure 56: Nineteenth century bootmaker's workhome

classes would also have supplemented their incomes by renting out a room or two in their houses to a lodger, and would have had a poorly paid servant living-in, to ease the domestic burden. However it was the women at the bottom of the pile, often widows or women with drunken, idle or sick husbands¹¹², for whom home-based work was an absolute necessity that enabled them to earn an income to support their families while simultaneously caring for their dependants. It was those women who really suffered as a result of the low rates of pay, in whose cause campaigners have attempted to either abolish or regulate homeworking, and as a result of which the concept of 'homeworking' has often been associated with the poorest and most desperate members of society. For this sector of the population home-based work was, and continues to be, an essential source of income, which is poorly regulated and offers low rates of pay (Rowbotham and Mitter. 1994, p218; Hobsbawm and Wrigley, 1999 p96).

There was another sector of manufacturing which needed to work at home in nineteenth century England that does not appear in discussions on historical home-based work. The skilled master-craftsmen and women continued to work in their homes. Booth's inquiry interviewed many trades-people who were running workshops in their homes, on the top floor, in the parlour or in a shed in the back-yard. These employers were often well-respected, comfortably-off, members of the community. Having their workshop in their home meant not only that they only had to pay one set of overheads, but also that they could contract and expand their business when they needed to. It also meant that they were on the premises whenever they were needed and members of their families could combine working for the business with domestic duties. These home-based workshops were a means for these budding capitalists to accumulate the capital necessary for setting up an independent factory.

Home-based work in industrialised England was not restricted to manufacturing. Trade in nineteenth century England tended to be small scale, specialised and home-based. Generally artisans both made and sold their produce on the same premises in which they lived [fig 56]. Wojtczak (2003) found a plethora of female shopkeepers in Hastings between 1831 and 1858, most of whom lived above or behind their shops¹¹³. These premises had a single entrance onto the street, giving access to both the dwelling and workplace aspects of the building. Outside trading hours the shopkeeper would have to pass through the shop itself in order to access their living accommodation, the spaces

¹¹² Women's Industrial Council Homework Survey (1897)

¹¹³ ...including the commonplace grocer, baker and draper, and the less usual "Tea dealer: Sophia Abbot, 33 West Street.", "Shell dealer: Sarah Hide, 3 pleasant Row.", "Egg merchant: Madame Floure, 62 George St."

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probably transforming their use to some extent according to the time of day. The shops appear primarily to be workplaces at ground floor level, while the dressmaker's premises appears to be a dwelling, customers and materials being received through the domestic front door.

A glimpse of life in such Victorian premises is to be found in *Oliver Twist* (Dickens, 1839 -b). On leaving the workhouse at the age of nine, Oliver was apprenticed to the undertakers Mr and Mr Sowerberry. Their shop, where coffins were made and paperwork done, contained a workman's bench and, on Oliver's arrival an unfinished coffin was standing on trestles in the middle of the room. Elm boards leaned against the wall, while the floor was scattered with...

“...coffin-plates, elm-chips, bright-headed nails and shreds of black cloth.”
(1839 -b p75)

The Sowerberrys ate their meals in a little room behind the shop, the back-parlour, while the apprentices and the servants ate in the basement kitchen:

“...[a] stone cell, damp and dark, forming the ante-room of the coal-cellar”.
(1839 -b p73)

The Sowerberrys slept on the first floor, but the young apprentice slept in the shop:

“...your bed's under the counter. You don't mind sleeping among the coffins, I suppose? But it doesn't matter whether you do or don't, for you can't sleep anywhere else...”(1839 -b p74)

The shop had large glass windows, protected at night by shutters that were stored in a small court at the side of the house during the day. There is no indication as to where the servant Charlotte slept, but it is likely she unrolled a mattress and slept on the kitchen floor. The lack of differentiation between the activities of 'work' and 'life' meant that apprentices often slept in the shop or workshop, and servants in the kitchen, as they had done in proto-capitalist times. The most important spaces in the building were the shop and the kitchen and most of the recorded events of Oliver's brief time in this establishment were played out there. The indication is that the household worked long hours, the work being interspersed with meals and social interactions.

Booth mentioned nearly 20 different types of shop in Hackney, Bethnal Green and South East London and, whether 'poor shops', 'moderate-sized shops', or even 'middle-class shops', it is frequently noted that the shopkeepers lived above them¹¹⁴, although there is little mention of how the spaces were inhabited. When discussing drapers, however, Booth did comment on the living arrangements:

“In small shops worked by a draper and his family, while the hours are often

¹¹⁴ Booth notebook B351, Bethnal Green Mar 111, Commercial Rd; p 57 Swan St; p 93 Lamb St,

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longer, the conditions are not so irksome. The family lives in the room at the back of the shop and during the slack hours the shop is watched from that vantage point.”¹¹⁵

However in the larger drapers' shops a very different system was usual, described in detail by Booth¹¹⁶. The shop assistants lived either above the shop¹¹⁷ or in houses adjacent to the shop. Conditions were more or less spartan, reminiscent of a comfortless English boarding school in the 1950s. Rules and regulations abounded and little consideration was given to the personal needs of the employees, who were thought to be fortunate if they did not have to share a bed and had access to a piano or some reading material in the evening. By contrast to the condition of the family-run draper, these assistants had very little control over their own time, or even the basic conditions of their lives. Although still engaging in home-based work, they lived at their workplace rather than worked in their homes.

Many shops were purpose-built to incorporate ground-floor sales space with a display window, and living accommodation for the shopkeeper. Steven Blackpool, Dickens' hero in 'Hard Times', lived in a room above a...

“...little shop. How it came to pass that any people found it worth their while to sell or buy the wretched little toys, mixed up in its window with cheap newspapers and pork (there was a leg to be raffled for tomorrow night), matters not here. He took his end of candle from the shelf, lighted it at another end of candle on the counter, without disturbing the mistress of the shop who was asleep in her little room, and went upstairs to his lodging.”
(1963 p60)

Here the shopkeeper slept in a small ground floor room behind her shop. It is probable

¹¹⁵ Booth notebook A20: Dressmakers and milliners p99

¹¹⁶ Ibid p103-107 “Except the married men, nearly all the assistants live on the premises or in lodging houses controlled by the employers. In large establishments separate sitting rooms are provided for the young women and the men, but the degree of comfort varies greatly from a bare room with a table and a few chairs to a well lighted and furnished apartment with a piano and other comforts. In a small house the dining room sometimes serves the purpose and all the assistants use the same room ...Sleeping arrangements differ in the same way. The young women sleep in the same room, frequently two in a bed. Besides the beds, there would be chests of drawers, each shared between two, a chair and sometimes a washstand and cupboards. In the larger houses lavatories supersede the washstand. Where it is permitted the assistants will decorate their room with little knickknacks, texts or pictures giving a more home-like appearance to the place. Where this is discouraged the only relief to the bare walls is a printed copy of the house rules. The men's accommodation is similar except that they have single beds more frequently. This system is gradually superseding the older double-bedded arrangements, single beds being substituted whenever renewal becomes necessary. The assistants are strongly opposed to the old style, as a choice of bedfellow is seldom permitted... In one large house the sleeping accommodation varied from a few small rooms each with a single bed to a large room with three double beds, the most usual being three single beds in a room. The girls' sitting room was large and well lighted and contained a piano and writing tables. The men's was similar with a library in place of the piano. The young men were lodged in separate houses in each of which a sitting room was provided. In each bedroom there were three single beds. A copy of the rules was affixed to the wall; one of which enacted that, except in foggy weather, the window was to be kept open a few inches at night. In a small house employing ten assistants, the bedrooms were at the top of the house, the men's being immediately under the roof; one room was used as a dining room by day and a sitting room by night.”



Figure 57: Contemporary inhabitation of C19 workhome

Figure 58: Spitalfields market with living accommodation above c 1912



that she used the shop itself as a living room. The reference to the counter indicates that the entrance to the lodgings above was through the shop. This was a common arrangement at the time and many extant shops from this period still have a single doorway giving access to both the shop and the accommodation above [fig 57]. People also often sold food from their houses, some such food-vendors having...

“...notices badly written on boards in front of some [houses] inviting the wayfarer to winkles, watercress, eggs and cake” (Booth and Steele, 1997 p136)

This food would have been produced in the home, but it is unlikely that such homes were adapted in any way for this purpose, or for the trade.

Market shopkeepers also lived above their shops, as Booth noted in Greenwich:

“...[the] central part is used for stalls and a stand for market carts. The sides are occupied by tradesmen, mostly in the greengrocery line, but there are other shops – boot-maker, milk-vendor, eating houses. Shopkeepers live over.” (Booth and Steele, 1997 p257)

Spitalfields market was similarly designed as a series of shops with shopkeepers and traders accommodation above them, arranged around the four sides of a central market [fig 58].

In the nineteenth century the term ‘dwelling’ appears to have had a broader meaning than it does in the twenty-first century. In Cross Street, Booth noted that there was...

“... only one dwelling house, which is a chandler’s shop...” (Booth and Steele, 1997 p35)

This confirmed that the act of ‘dwelling’ included both domestic and employment functions. In Ware Street, the “home of flower-sellers”, it was noted that there was...

“...a strong smell of flowers from one house. Look down and saw the whole bottom floor of one house covered with tubs of narcissus...” (Booth and Steele, 1997 p17)

This ‘house’ was also a storage space for the flowers being sold. The lack of linguistic distinction in Booth’s notebooks between dwelling and workplace in some cases makes it difficult to be certain of the nature of the inhabitation.

In addition to manufacture and trade, service sector occupations were often home-based, and varied from the genteel and comparatively well paid...

“...piano taught by a lady” (Booth and Steele, 1997 p20)

...to the most lowly and poorly paid.

“Opposite barracks are old, poor houses. Rooms let to soldiers married “off the strength”. Wretched lives led by such wives who take in other soldiers’



Figure 59: The Grapes public house, with living accommodation above



Figure 60: Contemporary funeral parlour with 'resident staff', Hoxton St, London

washing.” (Booth and Steele, 1997 p23)

Beer-houses and public houses were common in nineteenth century England, found on virtually every street. Inevitably the proprietor lived on the premises because of their long and anti-social working hours, a tradition that has continued to the present day [fig 59].

Prostitution was widespread, with women working both from private houses and from brothels:

“...a great many prostitutes living here. The hotels are places of accommodation, some are little else than brothels; the girls live in them, walk out and bring men home to them ...lowest class of prostitute and loafer; men brought home” (Booth and Steele, 1997 p35)

At one point Booth became concerned about efforts to eradicate the practice:

“...doubts as to the expediency of routing out brothels unless you can undertake the care of the women who use them as their homes.”¹¹⁸

Laundry and mangling were also often carried out in the washerwoman’s house, or in the rear yard, and as horses still provided much of the transport system, grooms, stable boys and coachmen continued to live over the stables...

“...on opposite side a livery stable-keeper has his house and stables” (Booth and Steele, 1997 p17)

The proprietors of hotels and lodging houses tended to live on their premises, as they needed to be ‘on duty’ around the clock, as did undertakers, further traditions that continue today [fig 60].

Booth also makes references to vicars, school-keepers and sometimes even head-teachers, who lived next-door to their churches and schools:

“...Roman Catholic cathedral with house for resident priests North of it”, “...the vicarage, built just below the new church”, “St Dunstan’s College, a big red-brick building, rather new, has the still newer head-master’s house and the porter’s lodge... at the South-East” (Booth and Steele, 1997 p17)

These residential ‘professionals’, while comparatively few in number, would have been embedded in every area of London. Their presence would have contributed to the safety of their churches and schools as well as making an important social contribution to their immediate communities. The nineteenth century also saw the emergence of a new range of large buildings, including those built to house factories or social institutions. As poverty and deprivation was widespread, these were also often built to incorporate caretaker’s accommodation as a way of protecting both the buildings and their contents.

¹¹⁷ ...which was the fore-runner to the department store

The workhome... a new building type?

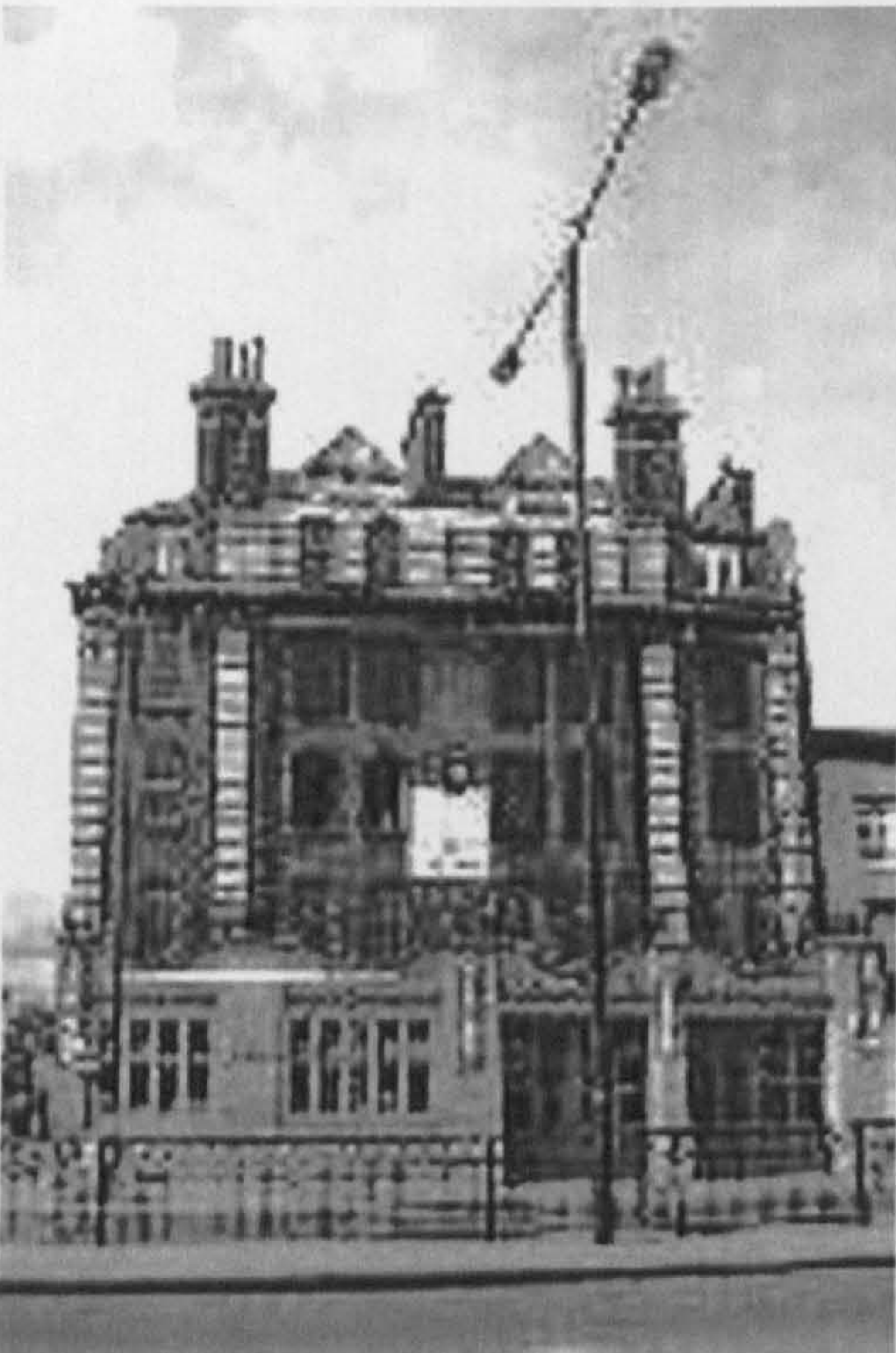


Figure 61: Fire station with accommodation above



Figure 62: London Board School, with attached school-keeper's accommodation

Booth mentions many of these:

“...Mission Clubroom with curate or caretaker living over”, “The corner is all taken with Rabbit’s factory, only a caretaker sleeps” “New baths and Washhouses with superintendent living over”, “Brewery with foremen’s houses attached”. (Booth and Steele, 1997 p20)

Such buildings often acknowledged their dual role as workhomes architecturally. The ‘home’ element often had domestic-scale windows and volumes, while the ‘work’ element, whether it was to be used for industrial, educational or ecclesiastical purposes, was usually built to a more monumental scale [fig 62].

Police-officers also often lived where they worked:

“...Turner’s Buildings... The staff of the (police) subdivision is one hundred and ninety all told, of whom twelve live in the section house behind the station in Lehman Street.”¹¹⁹

The tradition of police living in police housing goes back to 1829 and the beginnings of the London Metropolitan Police Service, when it was usual for the police station to be adjacent to, or even to incorporate, police housing. Fire-fighters also ‘lived at their workplace’, usually in accommodation above their fire stations, as noted by Booth in Greenwich:

“Opposite side is taken with the Fire Station which fronts on Grove Street. Large three-storey building. Firemen live on upper floors.” (Booth and Steele, 1997 p259) [fig 61]

The nature of their accommodation depended on status. The Chief Officer at Southwark was allocated a large Georgian house adjacent to the station, while at Lambeth he occupied a whole floor of accommodation above the station. Married fire-fighters were allocated a few small rooms above the station, while the single fire-fighters lived in dormitory-style accommodation. This became less common after 1920 as telecommunications and transport systems became more efficient. Chief Officers continued to live at their stations in order to co-ordinate the activities of the service until the 1980s. A retired fire-fighter at Lambeth refused promotion and left the force because he did not want to have to live above the station, saying that...

“...the accommodation was dire, there was no garden and it was like being at work all the time...”¹²⁰.

Professional people continued in home-based work, most doctors and dentists living in houses that accommodated their surgeries until after the creation of the National Health Service in 1948. Around 20 doctors lived and worked in the elegant Georgian houses of

¹¹⁸ Booth’s notebook B350 p79

¹¹⁹ Booth, Bethnal Green

¹²⁰ Interview with Esther Mann, curator at Fire Service Museum, Southwark.

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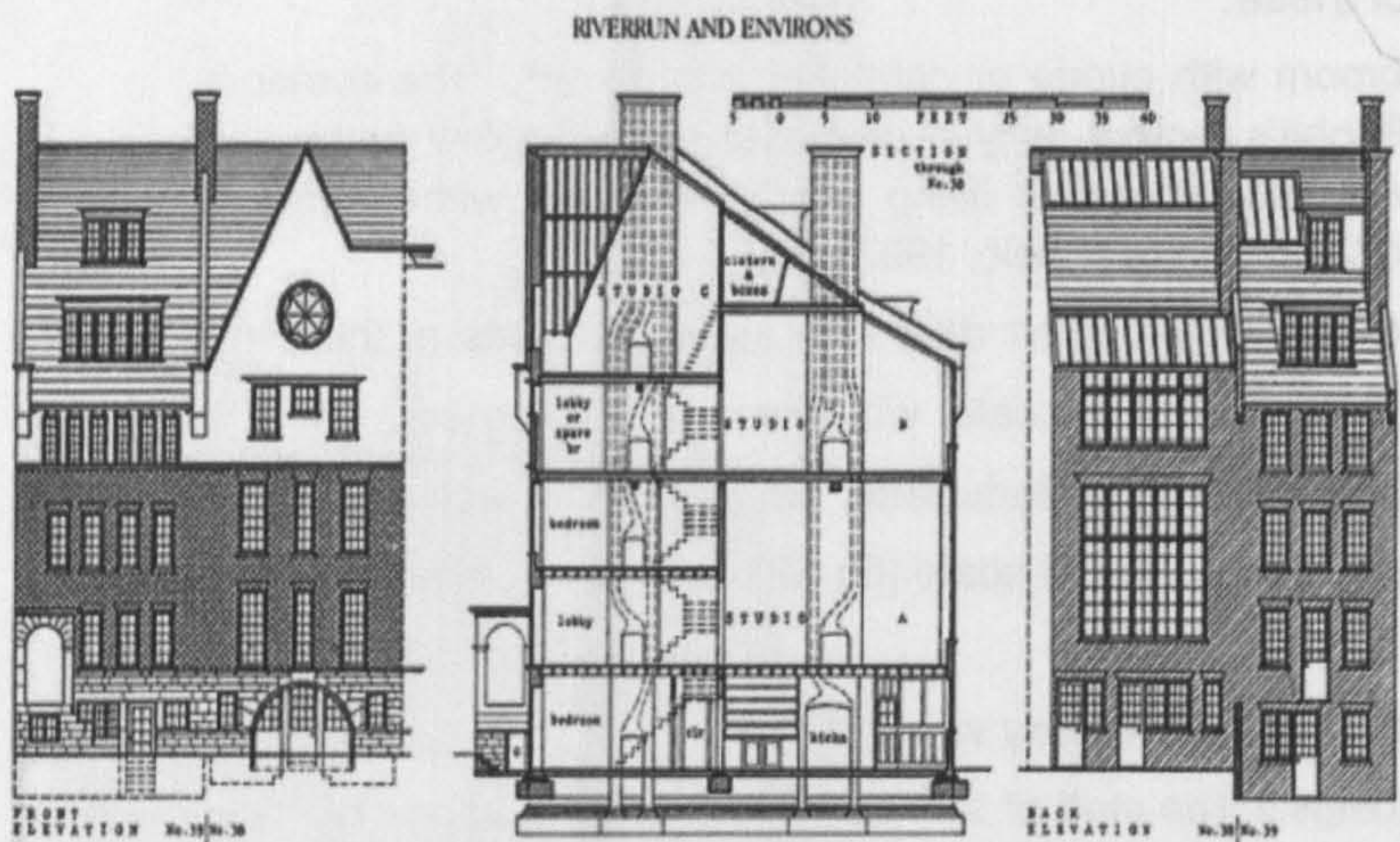


Figure 63: Studio houses, 38-39 Cheyne Walk, London

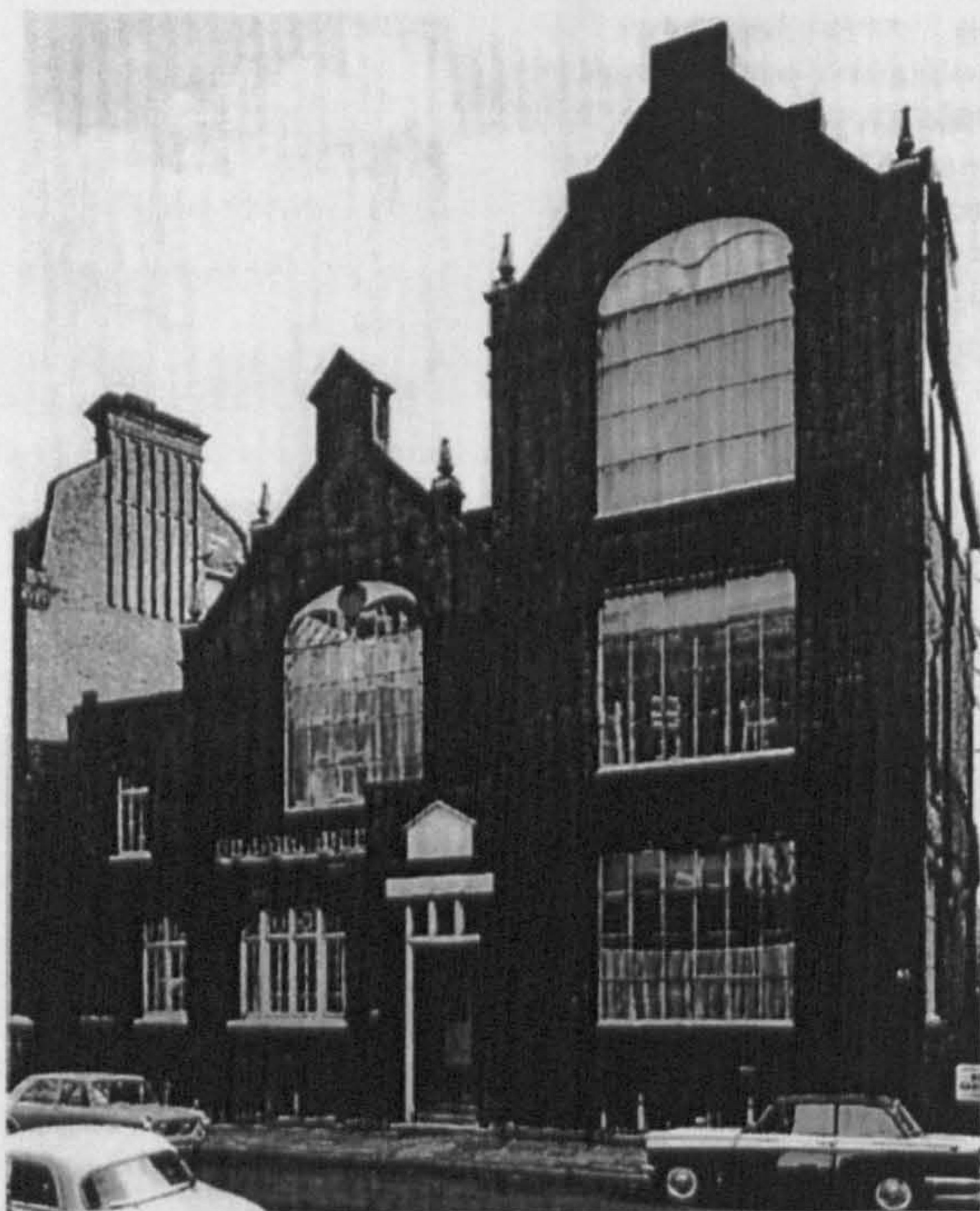


Figure 64: Thurloe Studios, London

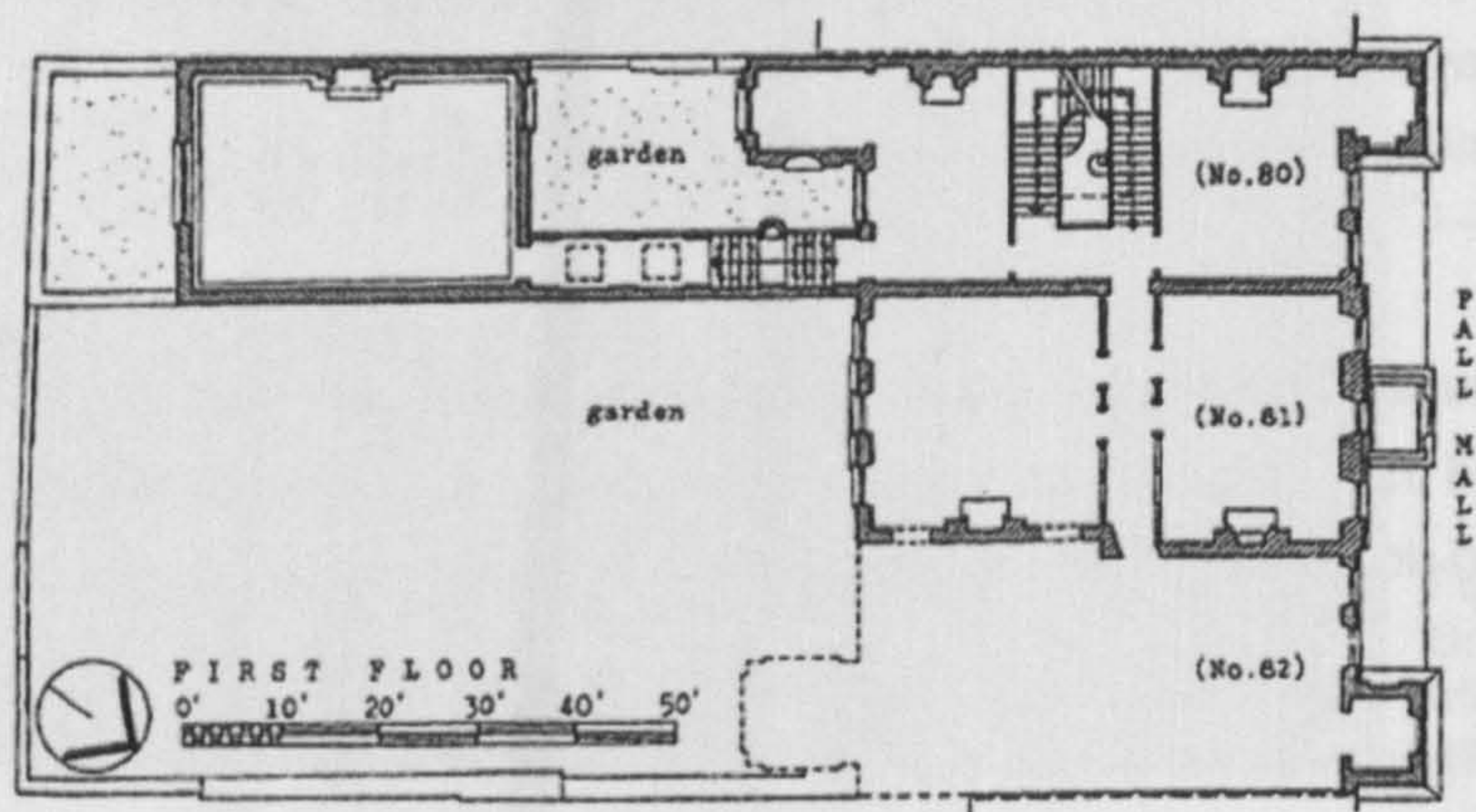


Figure 65: Thomas Gainsborough's studio house, 80-82 Pall Mall, London, ground floor plan.

Harley Street in 1860 (Stokes, 2004).

There is also a long tradition of artists living in their studios, or working in their homes, the process of creating art often being fundamental to the artist's being, rather than primarily relating to generating an income. They have often lived and worked in purpose-built buildings, studio-houses, a workhome with a distinguished, although little publicised, architectural history. Hundreds of examples unearthed by Giles Walkley (1994) in London range from the opulent to the humble. Reynier Banham (1956) wrote briefly about examples in Paris. Characterised by vast expanses of glass, and the juxtaposition of large-volume working spaces with conventionally scaled living spaces, these buildings are often archetypal workhomes, quirky in terms of both their form and their elevations, the architecture reflecting the dual functions of dwelling and studio [fig 63, 64].

In some, the studio was detached, typically placed in the garden behind a house, offering maximum privacy and minimising potential for disturbance. The house Thomas Gainsborough lived in, in Pall Mall [fig 65], comprised a re-working of three terraced houses, behind which he built himself a painting room and a private gallery in 1789, reached from the house by a narrow timber-framed corridor through the garden (Walkley, 1994 p17). In similar vein, the off-the-peg 'Iron Removable Studio for Artists' manufactured by Bellhouse & Co of Manchester, from 1855 onward (Walkley, 1994 p41) [fig 66], was clearly intended to be placed in the garden behind the artist's house. The Pre-Raphaelite sculptor, Thomas Woolner, replaced the mews stables behind his house at 29 Welbeck St, Marylebone, in 1861, with a building containing his modelling studio, a casting and carving workshop, a pointing shop and a drawing office (Walkley, 1994 p45-6). This achieved a high level of separation from the house at the front, the highly glazed workshop and studios having their own separate rear entrance

More often, however, the studio was incorporated into the main body of the house, often located on the upper floor, taking advantage of the height of the roof-space and the potential for top-lighting, and enabling a lesser degree of separation between the 'work' and 'domestic' functions of the house. Norman Shaw built such a house for the artist Marcus Stone on Melbury Road, Holland Park, in 1876. Each floor was functionally distinct, the basement including both the 'living' and 'working' spaces for the servants, the ground floor containing Stone's living rooms (including the bedrooms), and the first floor reserved for his work, with two vast studios built into the roof, accessed by three staircases (one for family, one for servants and one for the sole use of his models¹²¹). The

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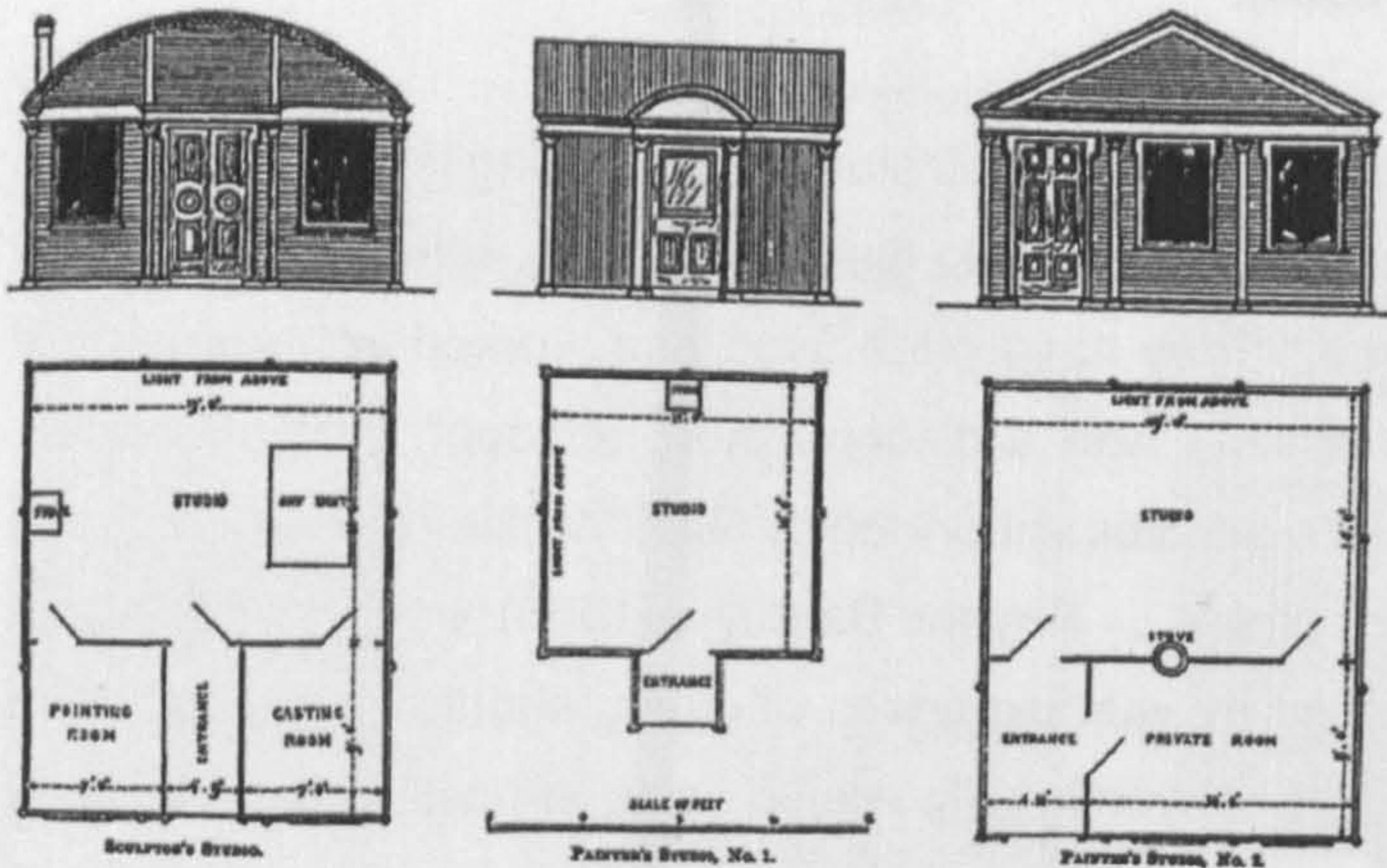


Figure 66: Bellhouse & Co Removeable Studio, 1855

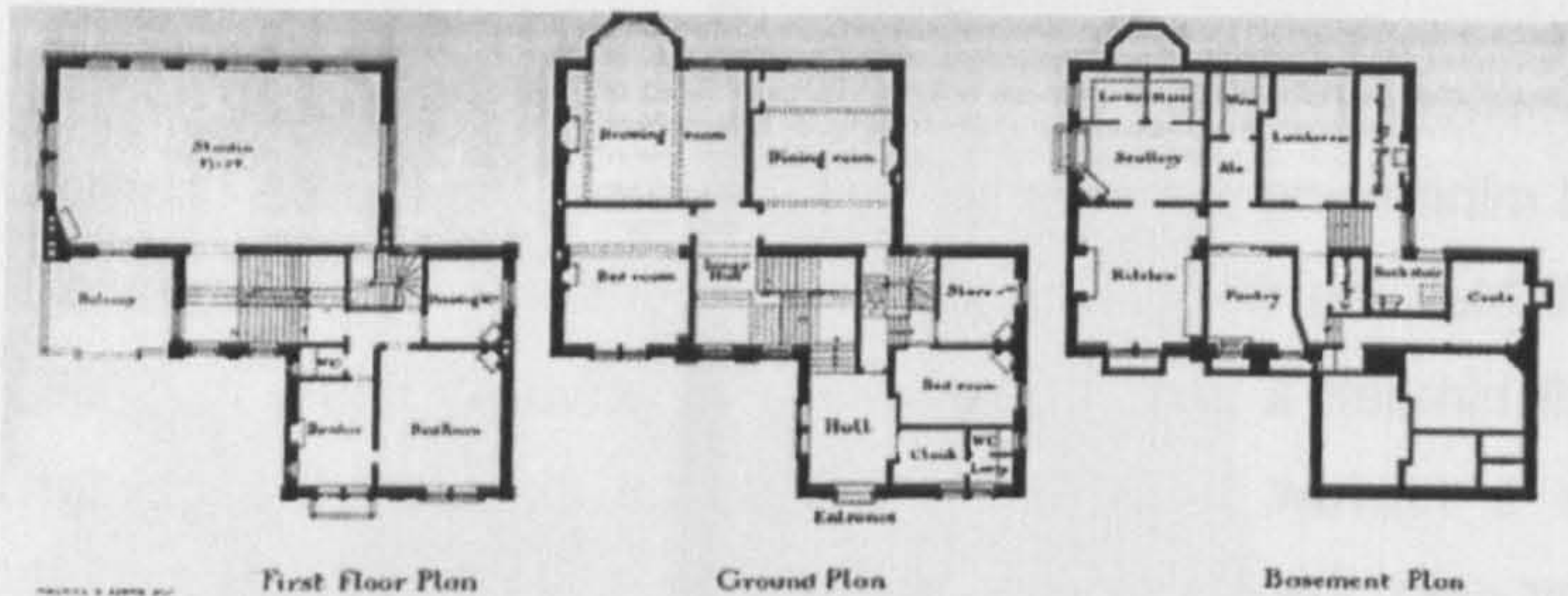


Figure 67 Studio house for Marcus Stone, Melbury Rd, London, designed by Norman Shaw, 1876. Plans.

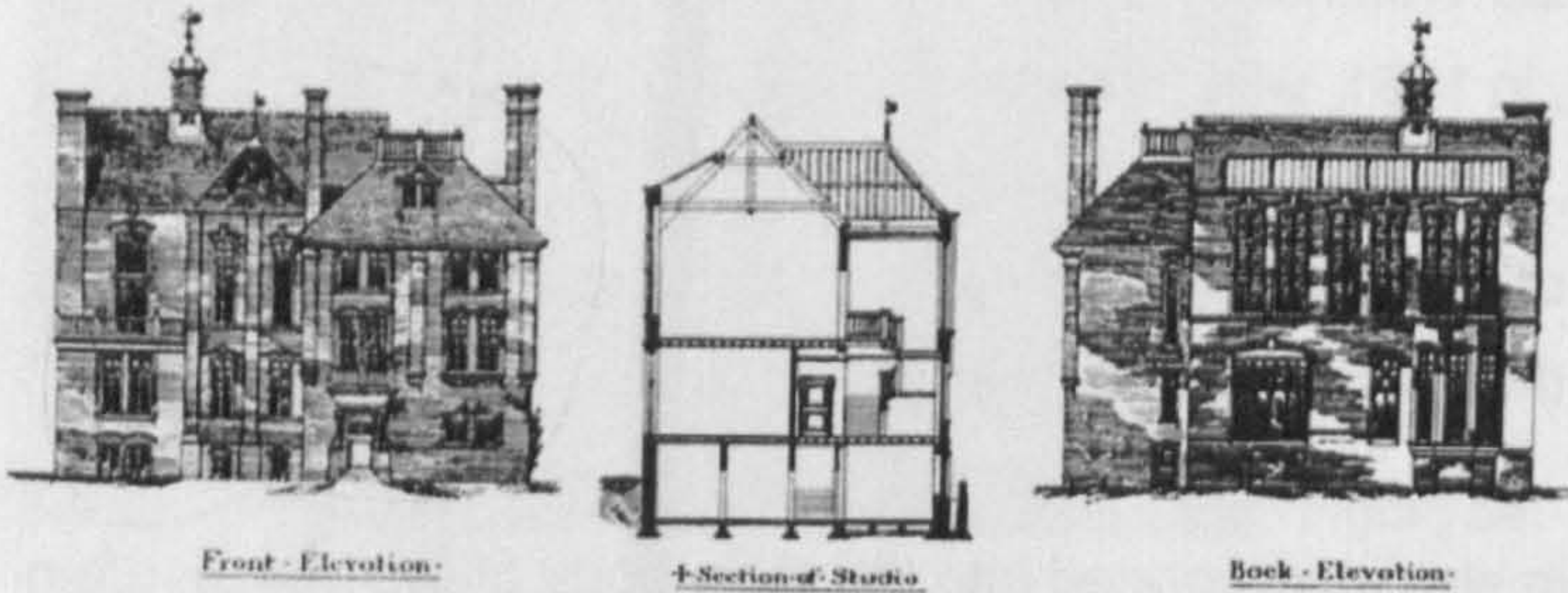


Figure 68: Studio house for Marcus Stone, Melbury Rd, London, designed by Norman Shaw, 1876. Section and elevations.

studios were lit by large areas of glass, partly in the form of tall oriel windows, partly roof lights and partly a glasshouse covering a winter studio (Walkley, 1994 p60-61) [fig 67]. The resultant elevations express the house's hybrid function [fig 68].

Philip Webb's house for the Royal Academician Val Prinsep, in Holland Park Road (1864-76), also incorporated a large double-height studio on the first floor (Walkley, 1994 p50-51). Lit by...

“...sky light, top light, three northern side lights... and a western oriel for sun-bathing after hours (Walkley, 1994 p50)

...the studio was placed at the north-facing rear of the house, as were the other major private rooms, Walkley suggesting...

“...1 Holland Park Road turned its back on the outside world. Artist at work; please do not disturb.” (1994 p50)

There were two stairs, one open and generous for the artist and his visitors, and the other cramped and hidden for the servants and models to use. Once again the kitchen was in the basement, together with rooms for the housekeeper and butler, while the maids slept on the second-floor next to the studio's gallery. The absence of a living room or reception room, the prominence of the working spaces, and the lack of separation between the spaces conventionally referred to as 'domestic' or 'working' spaces, suggests that the artist's work dominated the domestic aspects of his life. At the time, it was common for aspiring artists from wealthy backgrounds to build studio-houses of this size and grandeur as a way of both asserting themselves in the art-world and impressing their clientele with their apparent financial success. While this may have been one of the aims of this house, it was also clearly a serious working environment.

Charles Voysey designed a studio-house in Swanage, Dorset. 'Hill Close' (1895) which included a ground floor studio which was positioned at the rear of the house and, incorporated into a far more conventional domestic setting, less dominant. The elevations, generated by the dual functions of 'studio' and 'house', are reminiscent of those of the early weavers' houses [fig 69].

Not all studio-houses were designed for the wealthy, however. The smaller studio-houses, mass-produced as terraces or flats, are in some ways more interesting. A terrace of eight, designed for single artists and their housekeepers, was built on Talgarth Road, West Kensington [fig 70]. The elevations, once again, are unusual, combining the very large studio window at first floor level with the much more conventional domestic

¹²¹ Walkley notes that the house also has three gates, for use by the same three groups of people...

The workhome... a new building type?

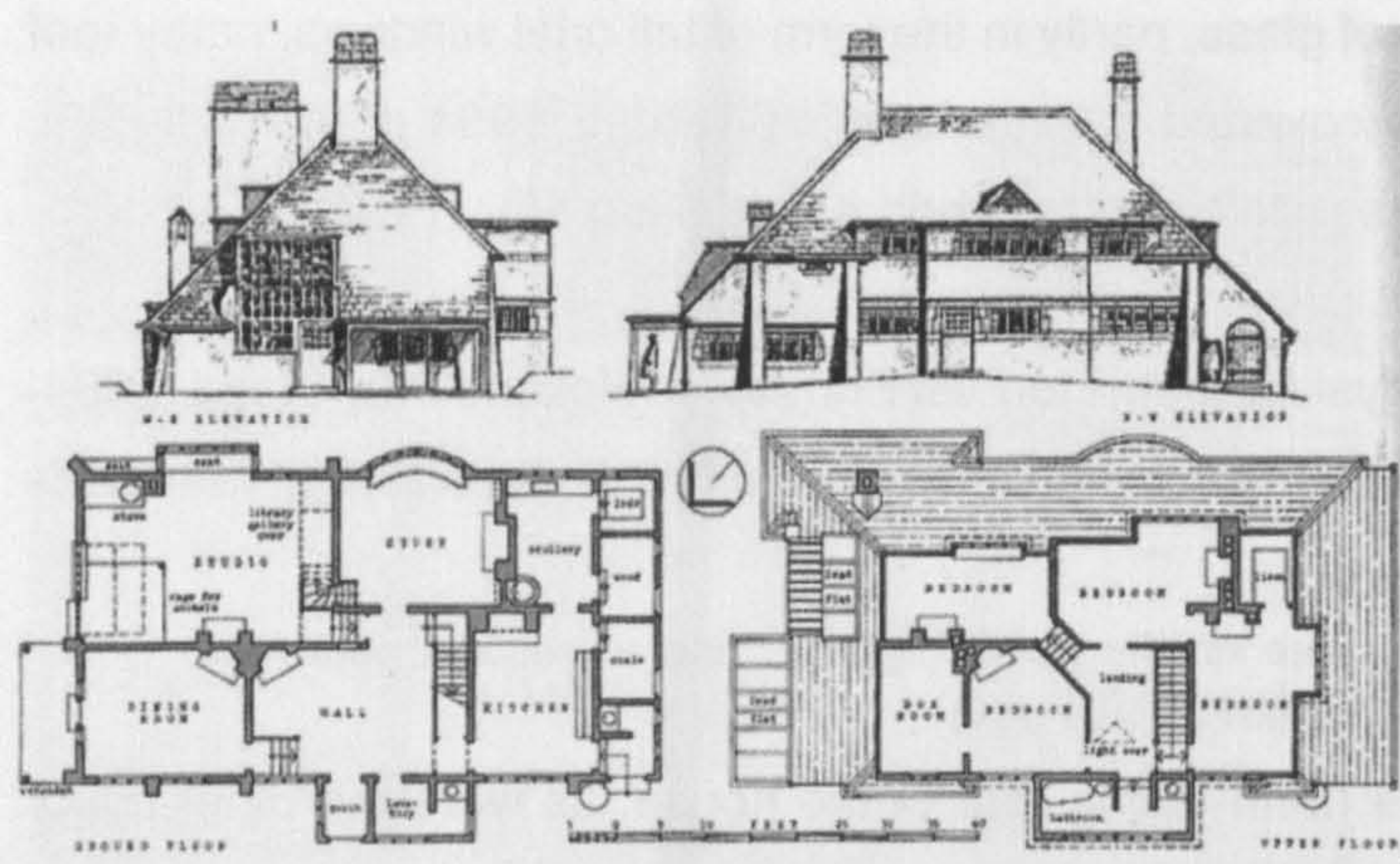


Figure 69: Hill Close, Swanage, Dorset, designed by Charles Voysey, 1895

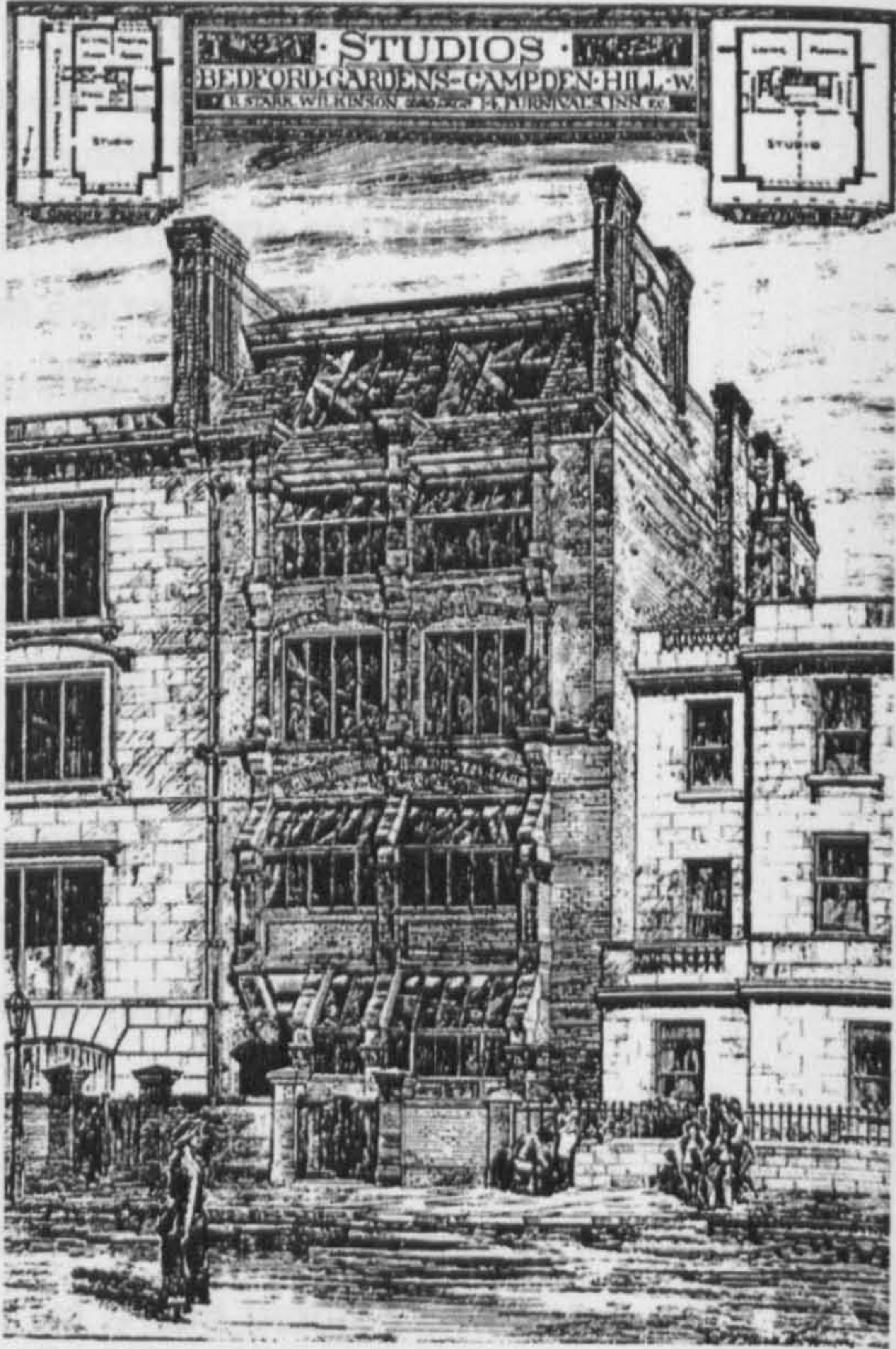


Figure 70: St Paul's Studios, Talgarth Rd, W Kensington, London



Figure 71: Studio flats, 77 Bedford Gardens, Kensington, 1882

architecture of the ground floor. As with the houses of the rich and successful, the kitchen and housekeeper's room were in the basement, the artist's bedroom and reception room on the ground floor, and the double height studio on the first floor. As with many of the larger houses, a back entrance and stair was provided for the not-very-respectable model, and tall slit windows were provided on the street elevation for the removal of large canvases. Even simpler was a block of ten studio-flats, none of them larger than 6m x 5m, built in 1882 in Bedford Gardens, Kensington [fig 71], "...tiers of oversized windows" to the street elevation announcing that these were not ordinary houses. Each studio-flat was organised as a simple open-plan space, a gallery bedroom having a small scullery and WC beneath it. Here the top-lit staircase was "generously planned to facilitate the raising and lowering of large canvasses" (Walkley, 1994 p144-6)

A transitional building form emerged, somewhere between working in the home and 'going out to work', in which employees lived adjacent to their place of work, sometimes in housing built next door to the works by the employer. Booth notes many examples of this:

"...The chief interest in this East Greenwich promontory is its numerous manufactories fringing the riverbank. These must provide employment for at least 3-4,000 men, probably more. The dwellings are subsidiary to the works. Some, as Blakely Cottages, are erected by employers for their work-people." (1997 p270)

and...

"A large steam laundry has been built on the N side... and many of the women live on this street." (1997 p194)

The model industrial villages of Saltaire (Reynolds, 1983) and Bournville (Harrison, 1999) were a development of this form, entire villages built around a factory, owned by a single industrialist who maintained a paternalistic control over the community. Robert Owen's experimental community at New Lanark (Donnachie and Hewitt, 1993) (1800-1824) was similar, the community of 20,000 revolving around four textile factories.

However, by the turn of the twentieth century many purely residential suburbs had been built, the breadwinners leaving in the mornings to work in the City and returning at night. Booth (whose survey of poverty in London was 1886-1903) noted of Lewisham:

"The majority work out of the district. There was a constant stream from 5am to 10am of workers going out and a return about 5pm and 6pm" (Booth and Steele, 1997 p61)

[fig 72]

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Figure 72: 169, Chatsworth Rd, London : "...men of small incomes who go to their work in the city in a black coat..."

Booth's notebooks are critical of these districts, suggesting that they were dull.

"...Duncrieve Rd brings us to the beginnings of the St German's estate, which is rapidly being laid out according to the general plans of a large speculative builder, Corbett... It is said that when all has been built over there will be something like 3,000 houses... It is a rather weary wilderness and in the daytime hardly anyone is about. The heads of the households go mainly Citiwards for work." (Booth and Steele, 1997 p228)

He found the closed doors and emptiness of the tidy, well-scrubbed middle-class areas, lifeless and impoverished, despite their affluence:

"...all the roads round here are fat and well liking. Life in them must be very dull and respectable"

Some of his comments, as at 1 Colenso Rd, conjure vivid images:

"...a dull respectable street with generally a grown-up daughter sitting with needlework on her lap in the front bay window, just behind or to one side of the usual evergreen plant in an ornamental china pot; some piano strumming."

In 'The Diary of a Nobody' (1999), George and Weedon Grossmith describe such a Victorian house, its district, and the narrow lives of its inhabitants at the turn of the twentieth century. Mr Pooter, Grossmith's central character, goes to work in an office in the City and lives in 'The Laurels', Brickfield Terrace, Holloway. This is a...

"...nice six roomed residence, not counting [the] basement, with a carpeted front breakfast-parlour and a little hall with ...a pair of stags heads made of plaster of Paris and coloured brown"

...and a drawing room with chintz-covered sofa and chairs, and a sideboard. The Pooter's had a live-in servant, Sarah, and Grossmith mentions a variety of services local to the house, including a "little tailor's" round the corner, a greengrocer's boy, a grocer's boy, a butcher "calling around" and "Trillip's the shirt-menders round the corner", while a laundress washed the men's shirts. This gentle satire of suburban life suggests an emptiness and awkwardness to middle-class existence, once 'work' had been separated from 'life'. Yet 'work' continued, behind closed doors.

Although not a socialist, Booth was sympathetic to the working-class way of life, noting that in the poorest areas of London, despite their poverty and deprivation, women would chat at open doorways and children looked happy despite dirty faces or ragged clothes.

"The children in class E (regular standard earnings – above the line of poverty), and still more in Class D (small regular earnings – the poor), have when young less chance of surviving than those of the rich, but I certainly think their lives are happier, free from the paraphernalia of servants, nurses and governesses, always provided they have decent parents... I see nothing improbable in the view that the simple natural lives of working-class people tend to their own and their children's happiness more than the artificial complicated existence

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of the rich.” (Booth C (1902) pp.159-160 quoted in LSE’s Charles Booth Online Archive, 2004)

Undoubtedly the transition to living in the suburbs had an immense impact on middle-class women’s lives, Booth remarking about an area being developed as a suburb:

“In a year or two there will be quiet streets and dozens of houses with, doubtlessly, wives in most of them waiting, according to their temperament, bored, gossiping or busy, through the long day, for their husband’s return...” (1997 p230)

The industrial revolution was a gradual process rather than an event¹²⁴. Pre-industrial home-based practices continued in many occupations throughout the nineteenth century despite the industrialisation of many manufacturing processes. In some areas, such as weaving, people continued to work in the traditional pre-industrial way until well into the twentieth century, despite the industrialisation of the trade. In others, aspects of the industrialised processes were carried out in the homes of outworkers because it was cheap. Many other areas of work continued to be home-based, including service industries such as laundry and retail trade, medical services and prostitution. ‘Live-in’ employment was also common, for caretakers, school-keepers, police, fire-fighters and clergy. Artists and architects worked from home in studio-houses. The image of England as a nation going to work in the factory was a stereotype that glossed over the complex reality. Many of the buildings built in the nineteenth century building boom were workhomes. And many of these working practices carried over into the twentieth century, in these buildings.

The suppression of home-based work in the twentieth century

Although people did continue to work at home throughout the twentieth century, complex social, political, economic and technological developments encouraged a geographical separation between workplace and dwelling. The invention of the assembly line in the US by Henry Ford in 1910 led to the development of processes of mass production,

¹²⁴ Technological development was one of the drivers of the industrial revolution, but the process of mechanisation was slow and there was a substantial delay between each technological innovation and its incorporation into an industrialised process. While the development of the factory system was a direct result of the invention of the steam engine, the spinning jenny and the power-driven loom, which led to the faster, more efficient and therefore cheaper, production of cloth, it took more than a century before these machines, invented in the mid to late eighteenth century, were in universal use; even at the time of Booth’s survey, some of the old-style weavers were still working on their hand-loom at home in their weaving-lofts. By contrast, the sewing machine was not invented until the mid-nineteenth century; and the delay in the development of an industrialised process for the clothing trade following this meant that clothes were still being produced by hand until well into the twentieth century. While Booth noted many small clothiers with partially mechanised workshops, he only mentions one clothing factory (In the notebooks studied, South-east London, Hackney and Bethnal Green), and then with insufficient detail to be able to ascertain the extent of the industrialisation of the production process. Similarly, while the machine that led to the industrialisation of the shoe and boot-making trade had been invented until 1871, the vast majority of boot and shoemakers in Booth’s time were small-scale tradesmen working by hand within their workhomes.

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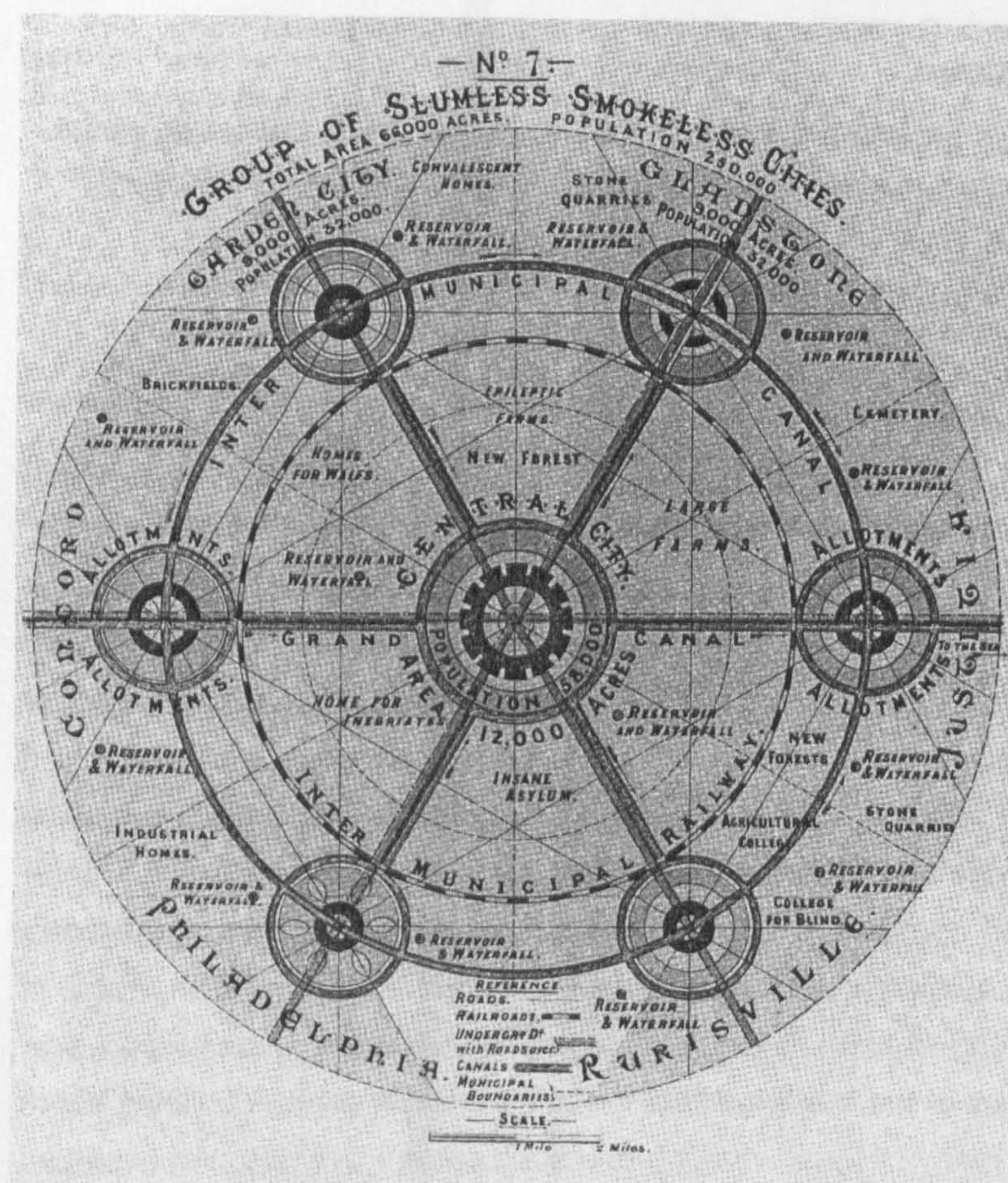


Figure 73: Ebenezer Howard's diagram of the 'garden city'

increasing the numbers of employees working in factories and reducing the size of the home-based workforce. In parallel, in England, the ideas of two individuals had a major impact on this practice. Ebenezer Howard, a clerk with Hansard, had a vision of a 'town-country garden city', a new form of settlement that incorporated the benefits of both town and country, which he developed in his book 'Garden Cities of Tomorrow' (1902). Of limited size, surrounded by an impregnable 'green belt' of countryside, these 'garden cities' were to be based on the separation of industry, commerce and housing into zones [fig 73]. Low-density residential areas of cottage-style houses, with gardens for growing vegetables, were to be interspersed with green open spaces. This vision was immensely influential in both urban and housing design throughout the twentieth century. The low-density 'garden suburb' was an offshoot of Howard's initial idea. Octavia Hill was a pioneer of the social housing movement. She coined the phrase 'the deserving poor', and believed that the...

"...improvement of a dwelling was ...contingent on the education and moral improvement of the tenant" (Lowe and Hughes, 1991 p125)

She evicted those who...

"...would not pay, or clearly lived immoral lives.." (Hill, 1875 p27).

She is commonly believed to have been the founder of housing management. However it has been argued that her apparent success in the field may have been a result of simply 'weeding out' undesirable tenants, rather than 'improving' the tenants overall¹²⁵.

Legislation was introduced in an attempt to outlaw the overcrowded and insanitary housing conditions of the poor, particularly in London, that resulted from Enclosure and industrialisation. The ideas of Howard and Hill had a strong influence on housing that was built to replace the slums in the early twentieth century. Organisations such as the Metropolitan Association for Improving the Dwellings of the Industrious Classes, the Peabody Trust and the East End Dwellings Company were set up to provide good quality housing for the very poor, with an underlying agenda of reform for the 'immoral and dissolute' lifestyle of the working classes. The intricate jumbles of buildings, courts and yards that made up the nineteenth century 'slum' in which people both 'lived' and 'worked', were cleared and replaced by often austere blocks of dwellings, built up to six stories high in order to achieve high density.

An early example of this was Katherine Buildings, Cartwright Street, built by the East End Dwellings Company¹²⁶ on a slum clearance site in the Whitechapel Improvement Area behind the Royal Mint in 1885 [fig 74]. This was a development of 281 rooms

¹²⁵ Kemp P & Williams P, (1991) p126

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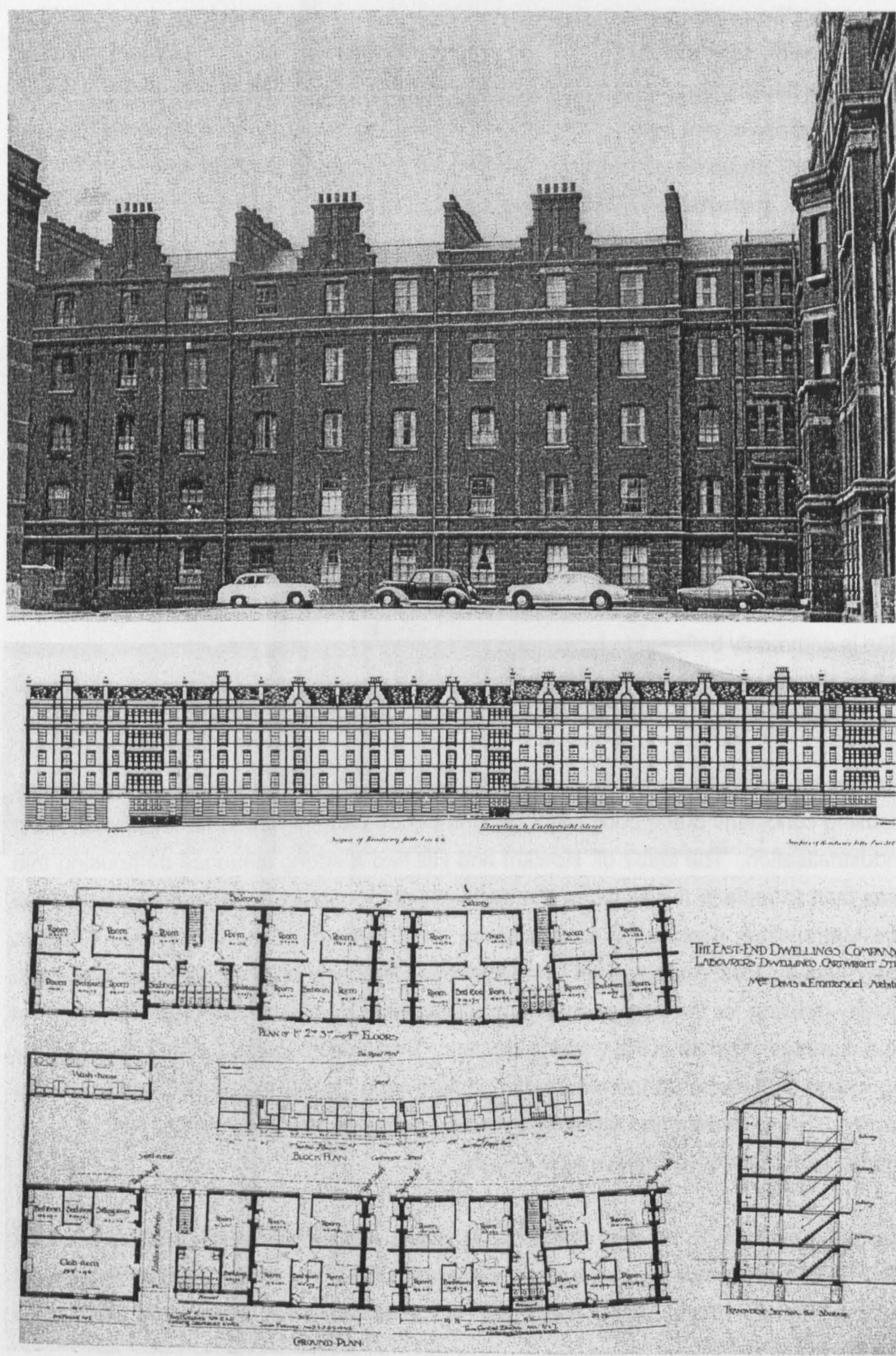


Figure 74, 75, 76: View, plan and elevation, Katherine Buildings, Cartwright St, London (1885)

aimed at re-housing the poorest inhabitants of the district, and therefore built to minimum space and sanitary standards in order to keep costs, and therefore rents, very low. Built in clusters of five separate rooms organised around nine short corridors on each of five levels, the rooms could be let singly or in multiples, depending on family size and economics. Sanitary provision was communal, six flushing toilets, three sinks and six taps for every 60 tenants were located at each level, with washhouse facilities in the rear yard, adjacent to the resident caretaker's accommodation (Tarn, 1971 p27-8, 71). The young Beatrice Webb¹²⁷, the first manager and 'lady-rent collector' of the buildings between 1885 and 1890, commented:

"In short, all amenity, some would say all decency, was sacrificed to the two requirements of relatively low rents and physically sanitary buildings." (1982 p127)

The block was barrack-like in its form, partly to keep building costs to a minimum, but also because a Victorian confusion between poverty and immorality saw the new 'model' housing developments as a tool for social control. The Company's aim was to elevate their tenants...

"...morally, socially and even economically" (Morris, 2004).

[fig 75, 76]

Twelve conditions of tenancy were set out in the first rent book, concerning the payment of rent, the cleanliness of the building and respect for other tenants. Sub-letting, or taking lodgers, was prohibited, as was the use of the collective washhouse for other people's laundry, eliminating two of the main means of supplementing income from within the home. However the real regulation of the building was undertaken by the 'lady rent-collectors'. Initially Webb accepted any tenants into Katherine Buildings, which had been designed to house the very poorest. However she came under pressure to restrict the intake, recording in her diary:

"Tenants, rough lot – the aboriginals of the East End. Pressure to exclude these and take in only the respectable – follow Peabody's example. Interview with superintendent of Peabody's. 'We had a rough lot to begin with, had to weed them of the old inhabitants – now only take in men with regular employment.' The practical problem of management: are the tenants to be picked, all doubtful or inconvenient persons excluded, or are the former inhabitants to be housed so long as they are decently respectable?" (Webb, 1938 p314)

The Peabody Trust had been set up, in 1862, to give housing to the poor of London who

¹²⁶ * The main endeavour of the Company will be to provide for the poorest class of self-supporting labourers dwelling accommodation at the very cheapest rates compatible with realising a fair rate of interest upon the capital employed." Tarn p 26

¹²⁷ Later to be one of her cousin Charles Booth's researchers in his Survey of Poverty in London

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had “a moral character and good conduct as a member of society” (Peabody, 1870). In 1870 the Secretary of the Peabody Donation Fund¹²⁸ felt it necessary to reassure the public regarding the conditions of housing in the first Peabody Building at Spitalfields:

“No restrictions are imposed on the freedom of any tenant, except such as are absolutely necessary to secure the comfort and convenience of all, there are no rules which interfere in the slightest degree with their privacy or independence. Every inmate has uninterrupted ingress and egress at all hours of day and night and is master of his home, and can live in as much seclusion and retirement as if dwelling in any of the adjacent streets.” (Peabody, 1870)

However, while a minimum of formal regulation appears to have been imposed initially on their tenants, Peabody also adopted a Hill-style of management, housing only the ‘deserving’ poor, tenancies only being granted on the production of evidence of formal employment, and undesirable tenants being ‘eliminated’. This marked the beginning of regulation of the behaviour of tenants in social housing. A similar moral stance was taken at Katherine Buildings. Webb evicted troublesome, ‘immoral’ tenants including those cohabiting outside wedlock or working as prostitutes such as Jane Bacon, who she...

“...found... was living an immoral life – turned her out [from her dwelling].”¹²⁹

Susan Slade, a,,,

“...hardworking, dirty, drinking, quarrelling woman”

...was turned out for...

“...bad language and behaviour”¹³⁰

Although Webb’s log for Katherine Buildings shows that working at home was not, at this stage, forbidden, many women being employed ‘mangling’, making artificial flowers, child-minding, and a range of other occupations in their homes, the occupations of the men were, almost without exception, carried out outside the home, suggesting an informal selection policy. In addition, the form of the building, regimented rows of rooms with deck-access, organised on five levels, could not accommodate most male home-based occupations of the time, in the way that the flexible physical environment of the ‘slums’, involving yards, sheds, small shops and workshops adjacent to dwellings, could.

In general Webb characterised her tenants as...

¹²⁸ Set up on the donation of a gift of £150,000 by American banker and philanthropist George Peabody “to apply the fund or a portion of it in the construction of such improved dwellings for the poor as may combine, in the utmost possible degree, the essentials of healthfulness, comfort, social enjoyment and economy”, see Mr Peabody’s Gift to the Poor, Statement of the Trustees 1865

¹²⁹ Room no 29: Beatrice Webb’s log of Katherine Buildings, held in LSE Archive

¹³⁰ Room no 223: Beatrice Webb’s log of Katherine Buildings, held in LSE Archive

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“...a leisure class; picking up their livelihood by casual work, poor in quality; by borrowing from their more industrious friends, and by petty theft. Drunken, thieving and loose in their morality. I should add, generous-hearted, affectionate, capable of self-control when once you have gained their affection.... Also warm in their feeling for family and friends. As a class, in a purely business relationship in which no other moral principle enters than that of fulfilling contracts – hopelessly unsatisfactory...” (Webb, 1938 p318)

The 1957 copy of the rent book for Katherine Buildings indicates a development in housing management rooted in the paternalism of Octavia Hill. It lists a far tougher and more prescriptive set of regulations, involving having to keep their premises (including the fixtures, fittings and windows) in “good decorative and clean condition”, “taking a share in cleansing the common stairs, WCs”, no dogs or other animals being permitted, chimneys having to be swept once a year, no children’s games being permitted in the courtyards, or piano playing after 11pm without the Superintendent’s permission, and the tenant “not permitting overcrowding in their dwelling”. Most crucially to this thesis:

“...tenants must not carry on any trade or business whatsoever on the premises or exhibit any notice thereon but must use the premises as a private dwelling only”.¹³¹

Lowe and Hughes argue that social housing changed in the 1930’s when housing was comparatively plentiful, and local authorities (and other housing organisations) moved down-market, starting to house ‘unsatisfactory’ families as well as the ‘deserving poor’. The 1930’s Central Housing Advisory Committee (1938) noted that the slum clearance emphasis of the 1930 Housing Act...

‘...introduced an entirely fresh principle in housing administration... that the very poorest were to be re-housed.’ (Lowe and Hughes, 1991 p129)

Although Webb had grappled with this idea, this was the first time it was to be applied wholeheartedly. Housing management was tightened up to deal with the new intake of tenants, ensuring their compliance through the controlling and invasive conditions of tenancy.

A sparse but hygienic, highly regulated, environment replaced the complex, but squalid, layers of public, semi-public and private space of the slum courts, imposing a radical change of life-style on the very poorest of the population, many of whom, as Booth has shown, were used to work at home. The indeterminate nineteenth century East End yards, sheds and courts provided spaces that enabled a wide range of different sorts of home-based work to flourish. By contrast the determinate spaces of the social housing that replaced them, arranged vertically with deck access, did not easily accommodate

¹³¹See 1957 rent book in Peter Townsend archive. This change is likely to have occurred much earlier, but it has not yet been possible to locate an earlier rent book.

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home-based work. An outcome of the slum clearance programme was therefore to shift the economics of the re-housed households from a family economy model to one of dependence on a male chief earner, who 'went out to work', leaving the wife to care for the children and the home. Whether this was unforeseen or deliberate policy, by 1942 it had become the norm, Pahl noting that:

"The system of social security outlined by Beveridge [was] based on a fundamental assumption of a wage earner and his dependent family".
(McDowell and Pringle, 1992 p134)

As legislation regarding public health and overcrowding increased, so did the number of homes designated as sub-standard, and it soon became clear that the LCC could not solve London's housing problems by slum clearance and redevelopment alone (Home, 1997 p13). The 1919 Housing and Town Planning Act gave local authorities responsibility for surveying the needs of their area for housing and for the implementation of an appropriate house-building programme. Between 1921 and 1932, the London County Council (LCC) built an estate of more than 2,200 dwellings around the small Essex village of Dagenham (although the estate is known as Dagenham, it was formally named 'Becontree'), to house many of those displaced by slum clearance (Young and Baldwin, 1934 p37, 65). Families used to the poor conditions of the East End courts were relocated on the clean and spacious Becontree/Dagenham housing estate, one family per fully serviced dwelling, with gas, electricity, hot and cold running water, an inside flushing WC and a fitted bath. This was built as a model 'cottage-estate' following the influence of Ebenezer Howard and the garden city movement.

At Dagenham...

"...two-storey cottages, [were] built in groups of four or six, with medium or low pitched roofs and little exterior decoration, set amongst gardens, trees, privet hedges and grass verges and often laid out in cul-de-sacs or around greens" (Swenarton, 1981 p1)

The houses were generally semi-detached or terraced, at a density of only 12 dwellings per acre, compared with 40 per acre for bye-law housing or 80 per acre in the slums being demolished (Gaskell, 1990 p198). Spatially, and in terms of amenity, they were far superior to that of the East End courts.

"My parents were happy to move out here because they'd got a home at last, their first actual home. They'd been married God knows how many years and they'd got five children at that time. They'd lived in rooms, sharing cookers and water, so it was absolutely fantastic that here at last was this beautiful house." Vera Andrews, resident of Downham, a contemporary LCC estate to Dagenham. (Rubenstein, 1991)

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However as a member of Barking Town Urban District Council stated:

"The main purpose in the twentieth century of any housing scheme [is that] the working classes shall live in healthy and moral [my emphasis] surroundings, and that human beings of both sexes shall not, like cattle, be compelled to be herded together." (Home, 1997 p26-7)

Home argues that the LCC's cottage estate building programme was...

"...about much more than just the building of houses. It sought to create new habits among its tenants, shaping the behaviour of an emerging nation of suburban house-dwellers." (Home, 1997 p30)

This was achieved, in part, through the strictly applied, draconian conditions of tenancy, continuing the Victorian tendency for social control through housing management. The Becontree Tenants' Handbook (1933) included 20 such conditions, including instructions that doorsteps and windows were to be cleaned once a week, chimneys swept once a year and no washing was to be hung out of windows or exposed to public view. As at Katharine Buildings:

"The tenant shall not use the premises or any part thereof as a shop or workshop, or for the carrying on or the storage of any implements of any trade or business". (Conditions of Tenancy for the Becontree Estate, 1933 in Young and Baldwin, 1934 p373)

The tenant was also forbidden from...

"...exposing in the premises or any part thereof any goods or materials for sale or hire" or from keeping lodgers". (Young and Baldwin, 1934 p373)

This regulation was aimed, in part, at making a more salubrious home environment, as there was concern that working at home was unhealthy and dangerous, and in some cases this was clearly the case. Fur-pulling was the most extreme example, where the fur was pulled off raw, untreated hides in a space that often doubled as both work-room and living/bedroom, the fluff from the work covering all the surfaces in the room and causing the workers chronic chest conditions. However the evidence of Booth's notebooks for East London suggests that most homeworking occupations had no detrimental effect on the home environment, apart from exacerbating an existing problem of overcrowding. Whatever the underlying rationale, the outcome of this condition was to impose a rigid separation between dwelling and workplace, and as a consequence, male breadwinner and female housewife. Many East End families were used to operating in a family economy to which all members of the household contributed, 'work' and 'life' often being carried on in a largely undifferentiated way in, or at least in close proximity to, the home. On moving to the new Becontree/Dagenham Estate this way of life became impossible. The strict division of labour that became necessary transformed the lives of the inhabitants.

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Initially, housing was all that was built. The first children were unable to attend school for more than a year, as no schools had been built (Rubenstein, 1991). Similarly the initial plan made no provision for industry or employment¹³³, so most men had to travel daily to London to work, even though transport systems were basic:

"Father was lucky because he was a railwayman and had free travel. The nearest station was Chadwell Heath. Poor Devil, it was about one and a half miles to the station. There was no way of getting there, so he had to walk one and a half miles to the station to work and one and a half miles to get home. It never changed in his time, he did the same old walk till he retired." George Herbert o.a.p. from Becontree Estate (Rubenstein, 1991 p56)

Such workers often left their homes at 5.30am, not returning until 9pm (Rubenstein, 1991 p60), and the demands of such a long working day ensured a complete division of labour in the home. However, as the Estate developed, so did local employment, offered for many by the Ford Motor Company who opened their new factory adjacent to the housing estate in 1931, employing 20 per cent of its male population by 1963 (Willmott, 1963 p16). Local employment made life more pleasant for the families, but did not alter the division of labour. Only in 1941, as a result of wartime labour shortages, were women permitted into the factory, but although ten per cent of the labour force was female by the end of the war, once peace was declared and the male workers returned and...

"...there was no further place for women on the production line." (Burgess-Wise, 2001 p72)

Although women clearly 'worked', caring for their children and tending the house and garden, two main factors prevented them from earning their livings¹³⁴. The first was the lack of available childcare. While many married women had previously relied on family members or neighbours for childcare while they earned their livings, such social networks were fractured by the move to the new estate (Young and Willmott, 1986 p131), resulting in the isolation of women with their children. Secondly, the prohibition of any form of employment in the home prevented them from undertaking paid work while they carried out their domestic responsibilities. In 1931 only eight per cent of employed women on the estate were married. (Young and Baldwin, 1934 p120)

Dagenham was zoned by function, following the ideals of the garden city. Industry, commerce and home were deliberately isolated from each other, even to the extent of making 'lock-up' shops in centralised 'parades'. Young noted...

"...the complete absence of the 'front parlour shop' or the 'general shop just

¹³³ As Young noted in his 1934 study of the development "...it is safe to say that with very few exceptions all the workers in the population had to travel to and from London each day, for there were hardly any employed locally except in the building industry." p 44

¹³⁴ This applies only to married women. Unmarried women, living with their parents until their own marriage, worked outside the home in a range of occupations.

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around the corner. ...The shops are all built for their purpose and grouped in centres." (Young and Baldwin, 1934 p100-2)

Willmott added:

"Virtually all are lock-up shops, dead and empty after closing time. This is very different from Bethnal Green, where so many small general shops are part of the shopkeeper's own home. In the East End, as elsewhere, there shops, like the pubs, act as 'social centres.'" (Willmott, 1963 p88).

This zoning had the effect of restricting social interaction and deadening the estate. Where a multitude of small local shops, often open for long hours and with shopkeepers living over them, contributed to the sense of community in the East End, every householder being known to their local shopkeeper, at Dagenham the clusters of larger shops became anonymous, at too great a distance for the housewife to buy food as and when she needed it and necessitating planned periodic shopping trips. This, in turn, led to the need for a refrigerator in which to keep food that was only purchased once or twice a week. The ownership of a car became desirable as the shops were at a distance from the house, and there was inadequate public transport. This all contributed to the development of a focus on consumption within the household (Willmott, 1963).

Hilde Marchant provides a portrait of a 'typical' family, the Braggs, who lived at No 45 St George's Road, Dagenham, in her column 'Feature Family' in the monthly Ford magazine (1952 April p6). The Braggs moved from Hackney, where Violet Bragg had worked as a machinist, when George first started at Ford's, as it was "quite an awkward ride to work". Moving to the Becontree/ Dagenham estate involved a radical change of lifestyle for this couple. Violet took on a non-economic role in the home while George became the sole breadwinner. He worked at unloading coal, ore and limestone at Ford's...

"...which he admitted could be a monotonous job."

Violet was the home manager, her main preoccupations being

"...home cooking and baking and spending long hours around Dagenham trying to find something tasty for George's sandwiches and something for the girls' lunch."

They lived in a terraced house, consisting of kitchen, parlour, two bedrooms and bathroom, palatial compared with contemporary East End standards of accommodation. Once they were allocated their house, one of many...

"...identical houses on identical streets"

...the couple set about transforming it...

"...house becomes home – a highly individual creation. ...George's wages, interest and leisure time go into his home, and a lively, bright, pleasant place it is."

Decorating annually, building shelves and cupboards...

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“...a new television is the main entertainment, the family rarely going out... Today he has created, out of his wages and work at Ford's, a neat, compact, admirable home for an affectionate and devoted family. That is his investment and contentment.”

Removed from the densely populated environment of Hackney and their former social networks, they focused inwardly on their home which...

“...is a tribute to his spare time handiwork” – and the pride he takes in seeing that his wife Violet has a cosy and efficient place to work.”

There is a stark contrast between the working-class lives described by Booth and those indicated by Marchant. Having been part of complex multi-functional, spatial and social networks in the East End of London, on moving to Dagenham people found themselves isolated in their ‘palatial’ new homes, living routine lives. While the men went out to their often repetitive and boring work, the women became housewives, spending time with their children and tending their homes, the notion ‘house-proud’ gaining currency as women strove to find meaning in their newly restricted lives. As a consequence the home took on a greater significance, as the receptacle of hopes and dreams, and families began to value themselves by what they consumed. A new preoccupation, ‘keeping up with the Jones’s’, fuelled a boom in DIY home improvement.

As the LCC estates were being developed outside London for the working classes, suburban housing was being built along the route of the Metropolitan Railway for the City worker and his family. Suburban living, the...

“...dream of a new home on the edge of beautiful countryside yet with every modern convenience including a fast rail service to central London...”

...was the middle-class ideal, as the Metropolitan Railway’s promotional literature made clear:

“The strain which the London business or professional man has to undergo amidst the turmoil and bustle of Town can only be counteracted by the quiet restfulness and comfort of a residence amidst pure air and rural surroundings, and while jaded vitality and taxed nerves are the natural penalties of modern conditions. Nature has, in the delightful districts abounding in Metro-land, placed a potential remedy at hand”. (1922)

The country was considered to be the best place for children to grow up, as air quality in London was very poor until the introduction of the Clean Air Acts¹³⁵. Suburban houses were sold as romantic rural retreats. While attempting to emulate the form of the country house, detached, half-timbered, with ample gardens, the suburbs developed as dormitory settlements, lacking the social and economic complexity, and therefore the vitality, of the

¹³⁵ After the Great London Smog of 1952

The workhome... a new building type?

*Come and see the "nests" the Birds
are building at Harrow Garden Village!*



Superior well-built Semi-Detached Villas are now being built in The Greenway (5 minutes Rayners Lane Station, Metro. and District Railway).

From - - **£850.** Deposits arranged.

These Houses contain:—

THREE GOOD BEDROOMS	(1) 16' 0" × 12' 0"	DRAWING ROOM	16' 0" × 13' 6"
	(2) 12' 6" × 12' 0"	DINING ROOM -	12' 6" × 12' 0"
	(3) 8' 0" × 8' 0"	TILED KITCHEN	13' 6" × 8' 0"
IDEAL BOILER AND GAS COOKER IN RECESS ..	TILED LARDER AND EASY-WORK		
CABINET .. GAS BOILER ..	TILED BATHROOM ..	SEPARATE W.C.	
BRICK BUILT COAL HOUSE ..	SPACE FOR GARAGE ..	LARGE GARDENS	

No road charges, law costs or stamp duties. Houses may be built to purchasers' own designs on selected sites.

B. D. BIRD & SONS
"Dunelm," The Greenway, Rayners Lane

SAY YOU SAW IT IN "METRO-LAND."

Figure 77: 'Dunelm', The Greenaway, Rayners Lane

rural village or small town.

In parallel a revolution was occurring in 'service'. The First World War had proved to be a liberating event for the live-in domestic servant, most of whom worked in offices or factories during the war and chose not to re-enter service, with its long hours, low pay and often oppressive lack of personal freedom or privacy, once the war was over. This left the middle-classes with a problem, as their houses were generally large and labour-intensive to run. Unable to get 'staff' after the war, a market opened up for more compact houses fully fitted-out with labour-saving devices, such as 'Dunelm', The Greenway, Rayners Lane [fig 77]. Offering a 'drawing-room' (the working classes had a 'parlour'), a tiled kitchen with separate dining room and multiple bedrooms, a house such as 'Dunelm' also boasted gas central heating, hot and cold running water, a gas cooker and electric lighting, all of which reduced the work required to keep even a fairly sizeable middle-class house, such as this, running. Nevertheless this, together with the care of the children, would have been a full-time job for the woman of the household without the help of servants. With its large gardens and 'space for a garage', a house such as 'Dunelm' (1987) fulfilled the promise of a dreamed-of lifestyle for many middle-class families.

Set in the low-density Harrow Garden Village, a...

"...well laid out and beautifully timbered Estate of over 213 acres, with 16 acres of permanent open spaces, recreation grounds and tennis courts, ... served by over 200 trains daily..." (1987 p100)

...such houses were designed for City commuters. Built at a distance from the dirt, noise, and, indeed, danger of the inner city, the lifestyle was based on both a gendered division of labour and the belief that it was desirable to keep dwelling and workplace as separate as possible. Such suburbs were renowned for the early morning exodus of the male population and their flooding evening return. Quiet and uneventful during the day, as with the Dagenham Estate, the family focus turned inwards, to the 'improvement' and maintenance of the home and garden.

By the 1950s, a generalised separation between dwelling and workplace had occurred, underpinned by the location, planning and management of vast new social housing developments such as Dagenham, in which home-based work was forbidden, and swathes of suburban housing like 'Dunelm', built for City commuters. The complex overlaying and integration of the productive and reproductive aspects of life that had been the hallmark of pre-industrial society, and which had continued throughout the industrial revolution, appeared finally to have been destroyed.

The workhome... a new building type?

But, once again, this separation of 'home' and 'work' was not the whole picture. As in the nineteenth century, where the invention of the factory system did not, in fact, end the practice of working at home, so it was in the twentieth century. Although the propaganda to keep work out of the home was strong, protecting the 'sanctity' of the home and woman's role as housewife, in reality people, from the wealthiest to the poorest, continued to carry out their productive work at home or to live at their workplace, throughout the century. The evidence for this lies in both the following section, in which three highly 'visible' sorts of twentieth century workhomes are discussed, and Chapter Four, where the home-based work of the participants in the contemporary study can be traced over generations, both within families and in particular buildings. It is tempting to think of the changes that have occurred in the conceptual and spatial relationship between 'life' and 'work' as belonging to particular periods, or moments in time, but in reality the different systems have run concurrently ever since the industrial revolution. Where housing regulation prohibited home-based work, informal economies emerged. Where shopkeepers succumbed to the suburban dream and moved out while travelling daily to their inner-city shops, recently arrived immigrant shopkeepers maintained the tradition of living above or behind their shops. The lack of regulation of home-based work meant it continued to be in employers' interests to employ an informal workforce in their own homes, particularly in the clothing industry. Professionals, artists, school caretakers, priests, publicans, landladies and many others continued to work at home, or live at their workplace, for a range of reasons, both social and economic. The stereotypical view was of a land of suburban commuters, but the reality was much more complex.

In the twentieth century it became the norm for paid work to be separated from the home. While the factors that led to this were complex, including the impact of two World Wars and the development of processes of mass production, the ideas of Octavia Hill and Ebenezer Howard made a significant contribution to the process. Home-based work was initially discouraged and ultimately prohibited in both the dense urban blocks of 'model' social housing and the suburban estates of semi-detached houses that were built to replace the East End slums. The middle-classes moved to suburban homes on the railway routes with easy access to the City. A gendered division of labour became the norm, the man generally 'going out to work'. But people across the socioeconomic spectrum did, in fact, continue to work at or from home or live at their workplace. They were generally much less visible, however, as a spatial separation between home and work became accepted as 'normal'. In the next section, some of the highly visible workhomes of the twentieth century are discussed. Additional evidence of the ongoing

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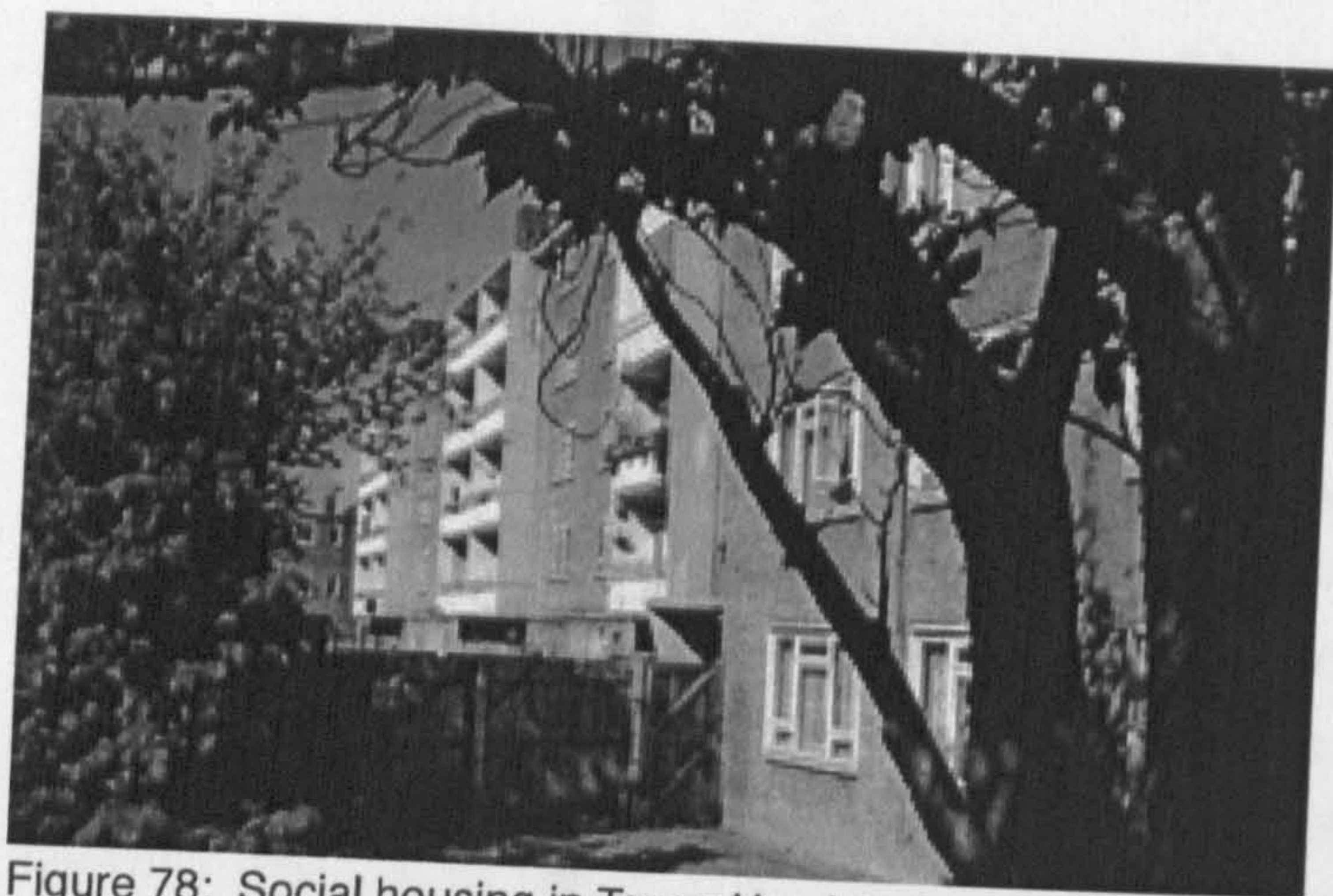


Figure 78: Social housing in Tower Hamlets

nature of the practice will be found in Chapter Four where contemporary home-based work, much of it 'invisible', is discussed.

Twentieth century/contemporary 'workhomes'

"Chanu brought home holdalls of buttonless shirts, carrier bags of unlined dresses, a washing tub full of catchless bras. He counted them out and counted them back in. Every couple of days he went out for new loads. He performed a kind of rudimentary quality control, tugging at zips and twiddling collars while probing his cheeks with his tongue. Chanu totted up the earnings and collected them. He was the middle-man, a role which he viewed as Official and in which he exerted himself. For a couple of weeks he puzzled feverishly over calculations, trying to work out the most profitable type of garment assignment, the highest-margin operation. But then he had to take what was going and the calculations were themselves a low-margin endeavour. Then he had time to supervise in earnest and he made himself available at her elbow, handing thread, passing scissors, dispensing advice, making tea, folding garments". (Ali, 2003 p207)

Monica Ali's powerful portrayal of the closed world of a young Bangladeshi woman living on a Tower Hamlets housing estate ("once or twice she went out" (2003 p43)) in her novel 'Brick Lane' includes a cameo of modern-day traditional manufacturing home-based work. Incurring an impossible-to-pay-off debt with an elderly Asian moneylender, Nazneen's unemployed husband buys her a sewing machine in 2001 ("...some of the women are doing sewing at home, Razia can get work for me." (2003 p184)). Working at her dining table ("... the new flat was in Rosemead block, one floor from the top, two floors above Razia, and had a second bedroom." (2003 p184)), the sewing machine played a central role in her life once her daughters reached school age:

"...Tuesday and Wednesday passed in the same pattern and Nazneen completed the linings of 37 mini-skirts". (2003 p208)

Starting an affair with the new middleman who delivered materials and collected the completed work, and saving money secretly to send to her sister in Dhaka, the heroine's world expanded beyond the walls of her flat...

"...through the old and honourable craft of tailoring." (2003 p208)

Many twentieth century buildings, no doubt including the Rosemeade estate mentioned by Ali [fig 78], are in use as workhomes despite not having been designed for this use. Many of the eighteenth and nineteenth century buildings of the contemporary building stock in England continue in dual-use, both those specifically designed as hybrids, and those initially designed either as workplace or dwelling. In addition there are many twentieth century workhomes that are highly 'visible' as a result of either their design,

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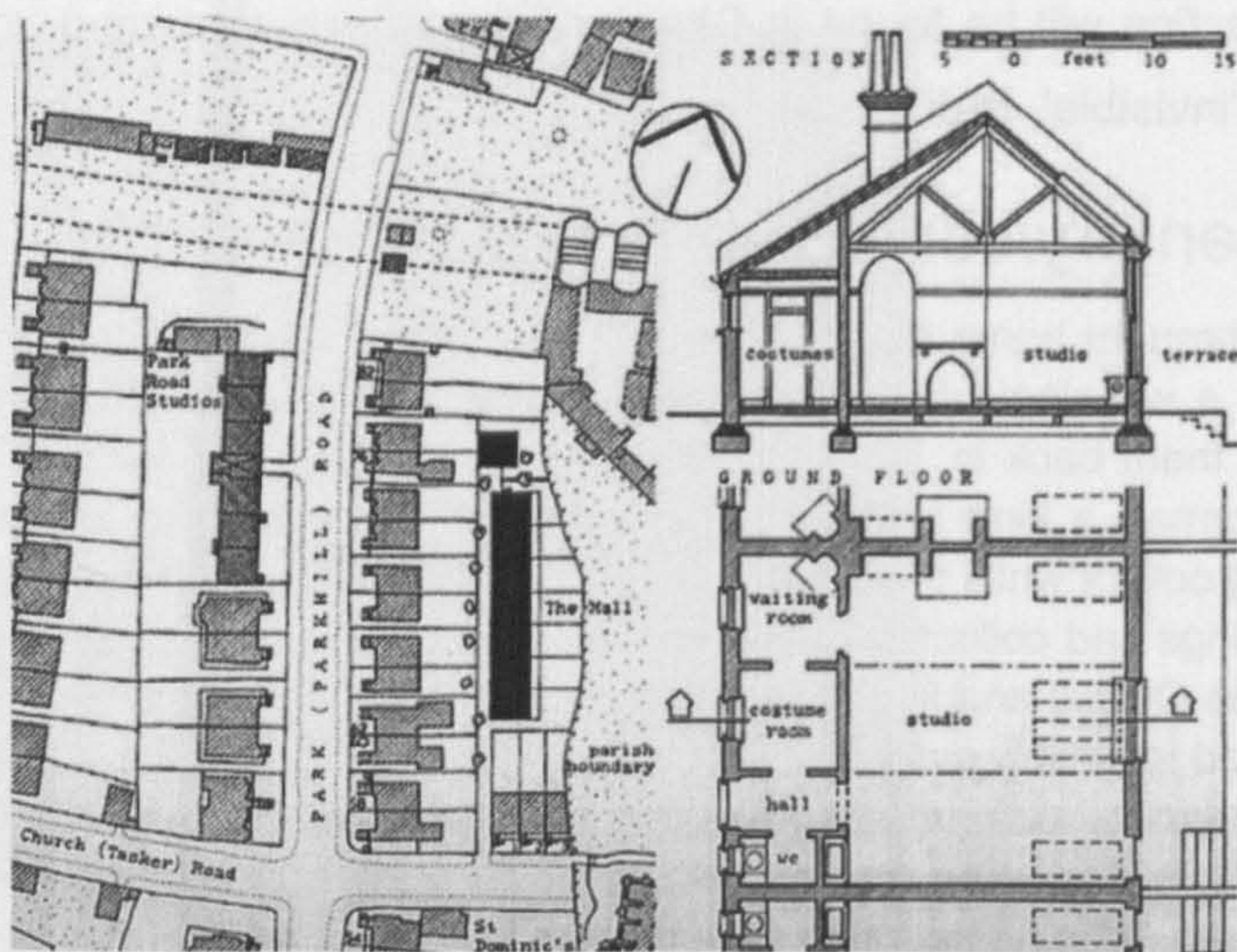


Figure 79: The Mall, Tasker Rd, Hampstead, London

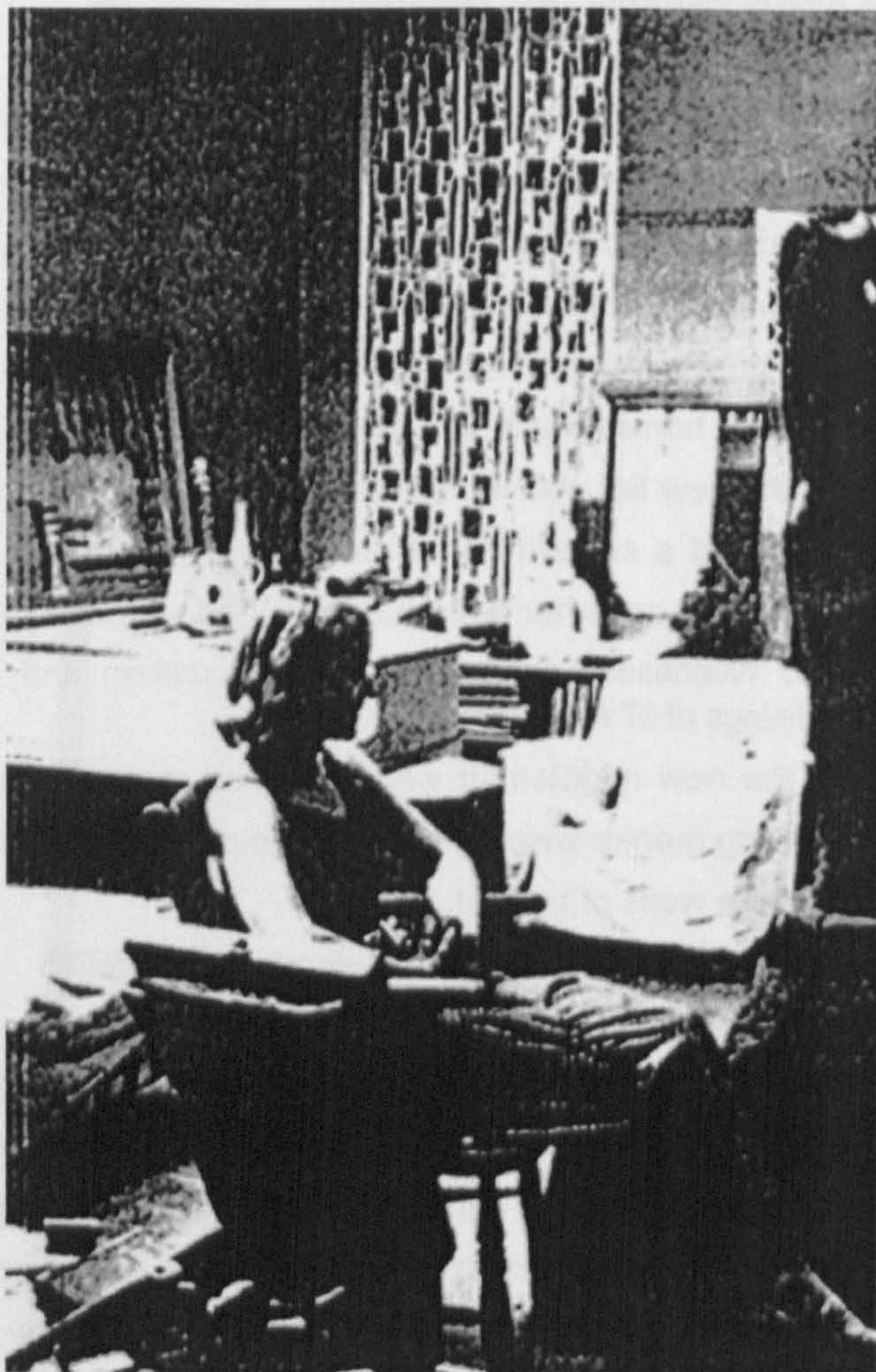


Figure 80: Barbara Hepworth in her studio at The Mall, Tasker Rd, Hampstead, London

or their function. These include the artist/architect's studio-house, the rash of live/work developments that has erupted over the past decade, and iconic buildings from the Modern Movement of architecture.

Studio-houses have been popular with artists, architects and others working in the creative industries throughout the twentieth century, many of those built in the nineteenth century continuing in the same hybrid use for which they were initially designed. The Mall, 1872, [fig 79] was an infill development of eight studio-houses, seven terraced, built in the back gardens of substantial semi-detached houses in Hampstead at the end of the nineteenth century. Each unit consisted of a single large volume, 20 ft high at its apex, lit by Northeast facing roof-lights, with two ancillary spaces and a WC:

"Each studio is 25 ft by 20 ft... and has small waiting room, costume room, lobby, and other necessary conveniences... The cost of each will be from £325-350." (The Architect 17 Aug 1872 quoted by Walkley, 1994 p142)

In reality the 'waiting room and costume room', provided minimal living accommodation next to the much larger studio, with a tiny mezzanine above. Barbara Hepworth moved into No 7 with Jack Skeaping in 1928, and lived there with Ben Nicholson between 1932 and 1939 [fig 80]. The combined living and working spaces suited their way of life, enabling them to pursue their careers as artists in which they did not earn much money. The lack of comfort does not appear to have concerned them or their visitors, and the minimal, cheap nature of the units enabled them to set up an extended family arrangement for their triplets. Hepworth employed others to be the primary carers for her children while she worked:

"After three years at the Welgarth Nurses Home, they had been set up with a nanny and Olive, a maid, at neighbouring No 4." (Festing, 1995 p125)

But the studio-houses suited her, enabling her to combine the roles of artist and mother:

"[a 'working' family holiday] ...made a firm foundation for my working life – and it formed my idea that a woman artist is not deprived by cooking and having children, nor by nursing children with measles (even in triplicate) – one is in fact nourished by this rich life, provided one always does some work each day; even a single half hour, so that the images grow in one's mind. I detest a day of no work, no music, no poetry." (Hepworth, 1985 p20)

Talking about Mondrian in 1937, Hepworth describes a scene that would be familiar to many women working at home:

"After a while he seemed to enjoy our domestic scene. His studio and Ben's were most austere, but my studio was a jumble of children, rocks, sculptures, trees, importunate flowers and washing." (1985 p39)

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Figure 81: Caruso House, Swann Yard, Islington (1993-4)

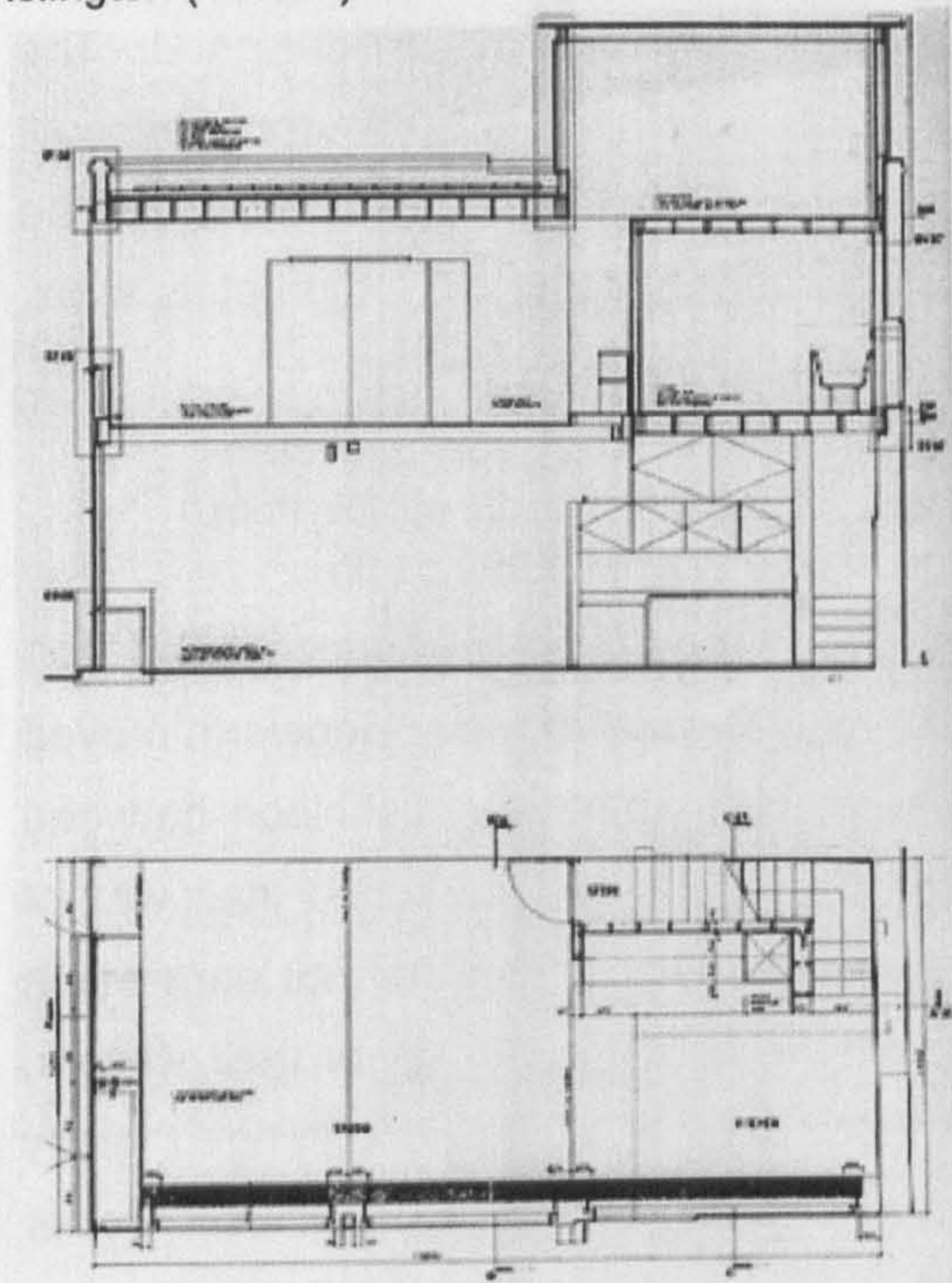


Figure 82: Norman Foster's penthouse apartment above his architectural practice (1990)

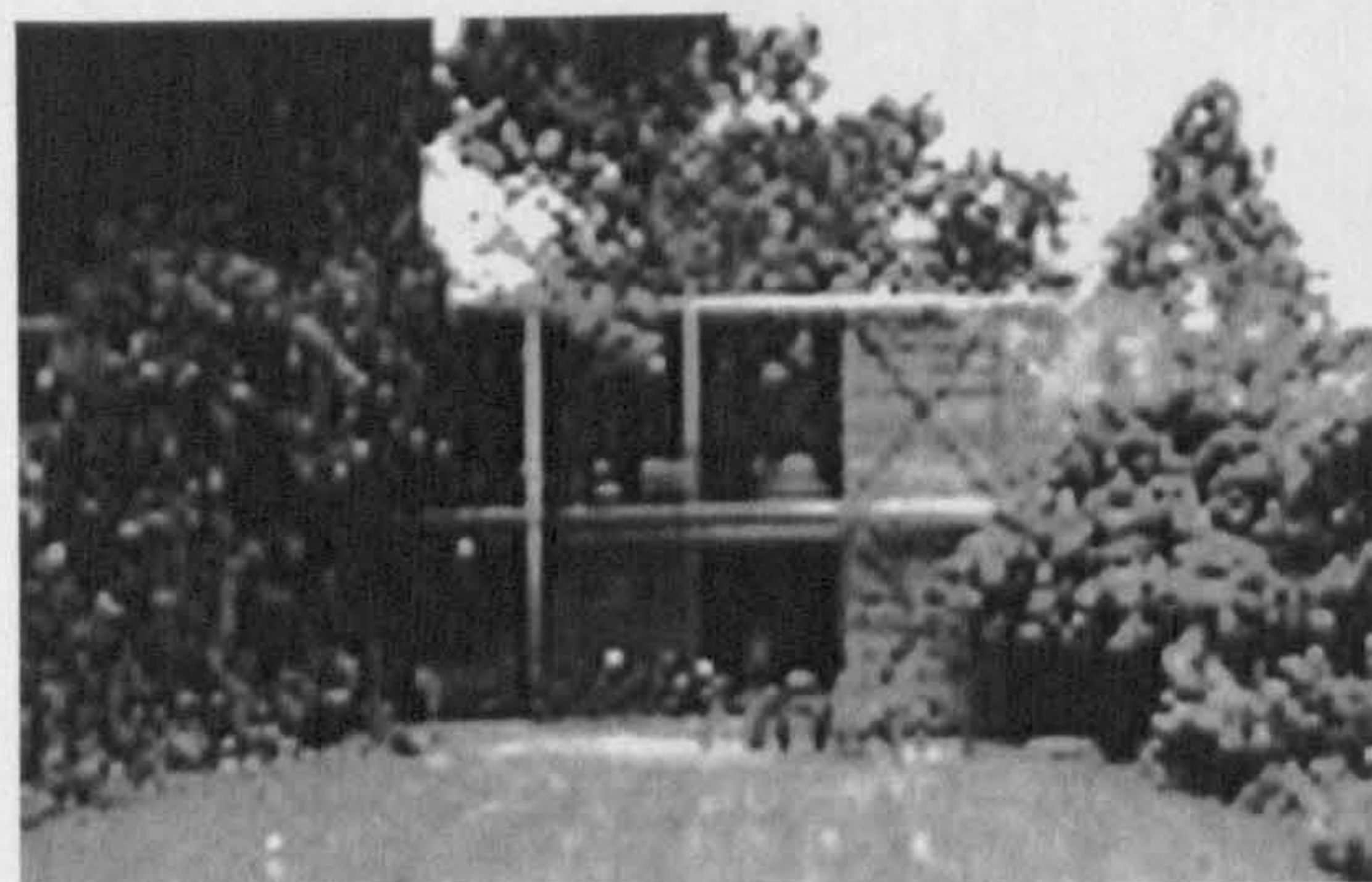


Figure 83: Michael and Patty Hopkins' house,, 1 Devonshire Hill, Hampstead, London (1975-6)



Figure 84: Strawbale House, Islington, London (2001)

At 77 Bedford Gardens, four floors of studio-flats with rear mezzanines, ten units in total, were built over ground-floor sculpture workshops (Walkley, 1994 p146) [fig 71], the façade consisting of “tiers of oversized windows” (Walkley, 1994 p144). From 1943 to 1946 the artist John Minton inhabited 77 Bedford Gardens; also in the building were Jankel Adler the painter, Ronald Searle the cartoonist and John Wyndham the writer (2006b). A number of these studio-flats continue in dual-use in 2006.

A succession of people working in the creative industries has also inhabited Pembroke Studios, a development of 13 studio-houses in West London, generally single aspect and ‘L’ shaped in plan, facing onto a private garden. The main top-lit space was double-height, with a sleeping gallery and a bathroom. David Hockney occupied three in the late 1970s, using one to live in, one to work in and one for his guests and for business. In 2006, many continue to be used for their intended dual function, one inhabited by a landscape architect and designer who has lived and worked there (and brought up two children) for 26 years¹³⁶. Sir Philip Dowson inhabits one, a Royal Academician another. These diminutive properties were basic and cheap when they were built; they are now on the market for over £1 million each (2006a).

The architect’s studio-house has much in common with the artist’s studio-house. There is a long tradition of architects working in homes that incorporate an office or studio or, conversely, offices that incorporate a dwelling, often that they have designed for themselves. Recent examples range from the tiny but perfectly formed Caruso House (1993-4 but since demolished) in Islington [fig 81], where Adam Caruso and Peter St John started in practice together, to the vast penthouse apartment of Norman Foster (1990), perched on top of the riverside building that contains his double-height 24-hour a day, seven day a week office, five floors of apartments being sandwiched between office and apartment [fig 82]. Foster’s arrangement echoes that of the master-weavers in Fournier Street, Spitalfields, the employer living an elegant lifestyle and having a great degree of control over his life. The employees, by contrast, work long hours at a distance from their homes, and have considerably less control over their lives. Conran and Partners have recently launched an initiative for buildings that include both office space and living accommodation for employees, taking this format one step further (Conran & Partners, 2005). Michael and Patty Hopkins’ combined house and office in Hampstead (1975-6) [fig 83] was seminal in its time, as is the idiosyncratic Wigglesworth/ Till Straw-bale House (2001) [fig 84].

¹³⁶ Telephone interview with contemporary inhabitant, M Adams (30.11.06)

The workhome... a new building type?



Figure 85: Exterior view, King's Wharf, Hackney, London

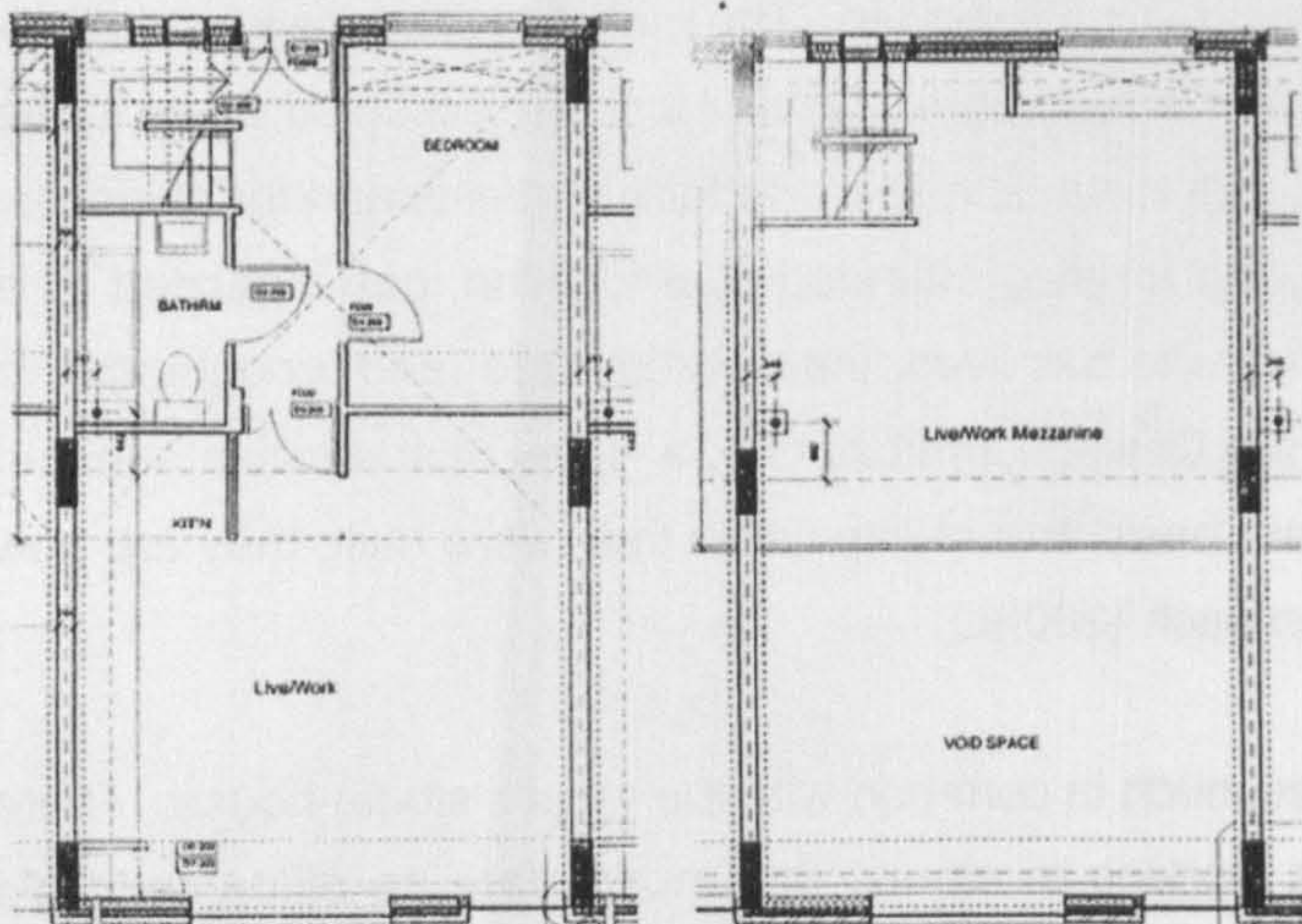


Figure 86: Plans, King's Wharf, Hackney, London

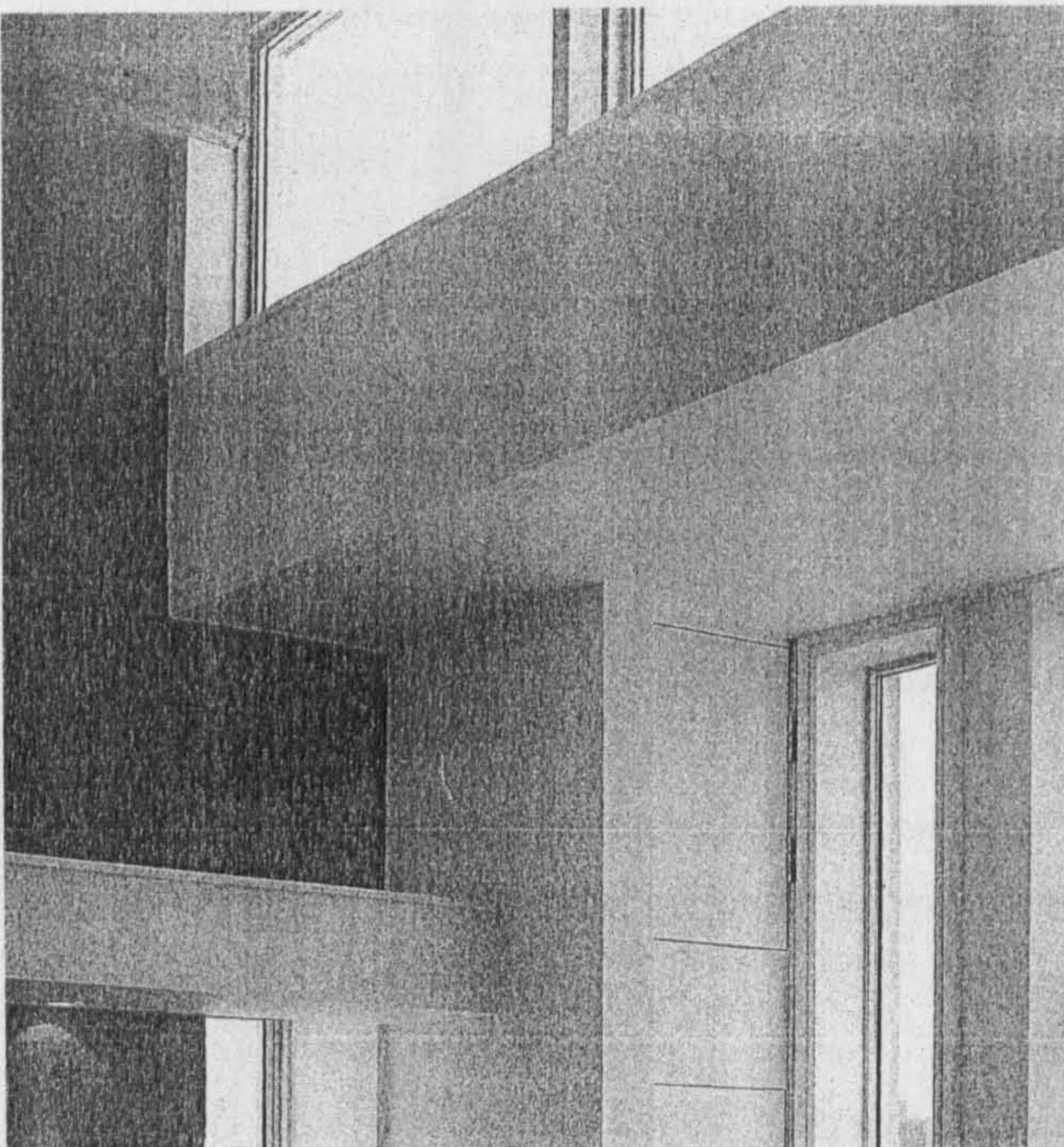


Figure 87: Interior, King's Wharf, Hackney, London

Another example of a workhome that has captured the architectural imagination is the 'live/work unit'. King's Wharf is a development of 57 such units with 13 commercial units, designed by Steven Davy Peter Smith on a semi-industrial canal-side site in Hackney in 2001 [fig 85] (Black, 2001). Each unit has a main double-height space with a small, enclosed rear room, a bathroom, a kitchen alcove, and a mezzanine above, accessed by a dogleg stair at the rear of the unit [fig 86]. They are arranged on five levels around a small courtyard, with deck access from two public staircases and a domestic-scale lift. Internally, the clean white-painted plaster walls, exposed concrete frame and steel framed double-height glazing contribute to the 'loft' aesthetic [fig 87], sold by interiors magazines to young urban professional as the ideal home environment of the twenty-first century. Electric Wharf, a reworking of Coventry's first power station, is a development that combines offices with live/work accommodation in the form of either three-bedroom 'eco-houses' or loft-style apartments. Designed by Bryant Priest Newman, it is marketed as a green and innovative development. Workspace is either provided in a ground floor office or on a mezzanine over the living spaces of the houses, or at the kitchen/dining table of the apartments. Kings Wharf was caught up in the LB Hackney 'live/work' controversy. Electric Wharf, a 'second generation' live/work development, has planning controls in place to ensure that the units do not revert to purely residential use in the short term. Both bear a resemblance to their medieval ancestors: the manor house and King's Wharf have similar double height and mezzanine spatial arrangements. At Electric Wharf, the indeterminate space of the long house has been compromised by enclosing the sleeping area, but a large open space accommodates all other functions.

The Modern Movement in architecture is also a rich source of workhomes; three have been selected as examples. The Ozenfant House and Studio, by Le Corbusier (Paris, France 1922) consists of a top-floor artist's studio, with extensive glazing and roof lights, with separately accessed living accommodation below [fig 88]. The Maison de Verre, by Pierre Chareau and Bernard Bivjoet (Paris, France 1927-1932) [fig 1], consists of a ground floor gynaecologist's surgery with living accommodation above. The Eames House, by Charles and Ray Eames (Pacific Palisades, California USA 1945-49) [fig 89, 90], built to house their own design practice until it outgrew the space, consists of a studio onto the street, with a house behind. We know little about how well these buildings functioned as workhomes, as architectural writing tends to focus on the form and materiality of a building rather than how it is used. However they play a pivotal role in the 'conceived' spaces of the contemporary workhome. An investigation into this would make an interesting future research project. These buildings will be discussed

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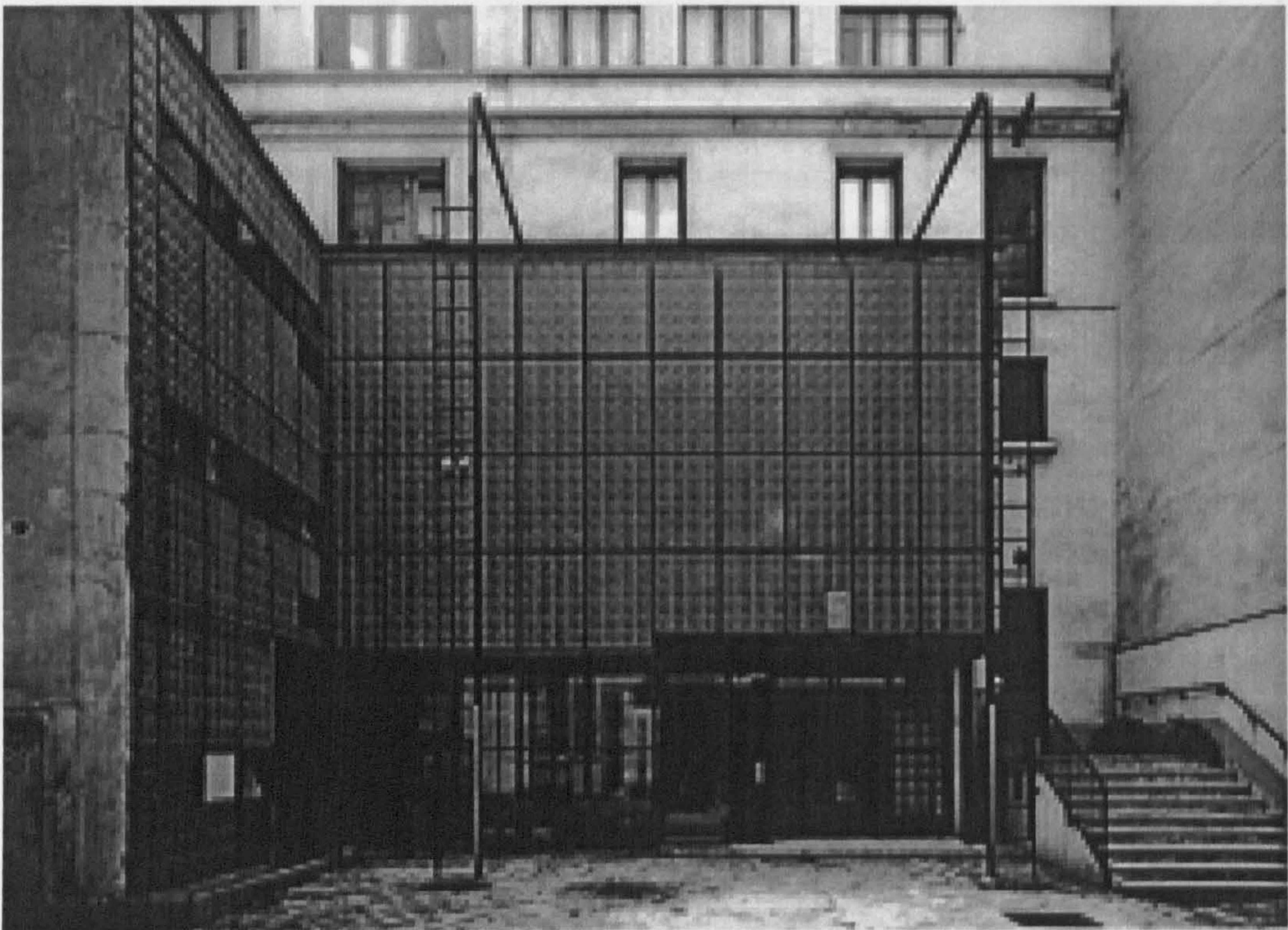


Figure 88: Maison de Verre, (Paris 1927-32) designed by Pierre Chareau and Bernard Bivjoet

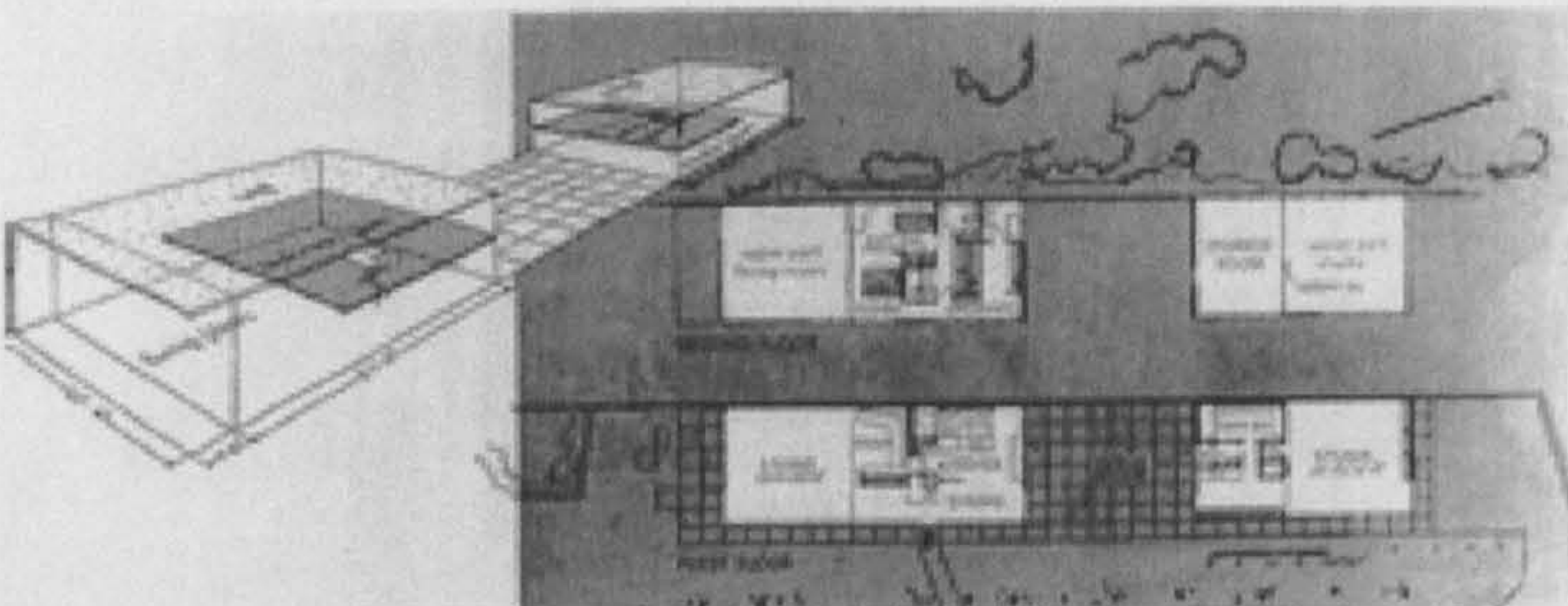


Figure 89: Plans/ Axo, Eames House, (Paris 1945-49) designed by Charles and Ray Eames

Figure 90: Eames House, (Paris 1945-49) designed by Charles and Ray Eames



further in Chapter 5.

The visibility of the twentieth century studio-house, live/work unit and iconic Modern Movement workhomes, means that they can help us to trace the existence of this building type over time. Myriads of other twentieth century workhomes are not, however, visible in the same way. This may be because the 'work' they were designed around did not have spatial or environmental requirements that would distinguish them from neighbouring dwellings or workplaces. Or it may be that the dual functions were being carried out either illicitly in buildings in which they were prohibited, or in buildings designed for other purposes. These are themes that will reappear when we investigate the contemporary workhome.

Chapter conclusion

The workhome has been traced from medieval times to the present day in this chapter, establishing it as an identifiable building type and thereby achieving the first aim of this thesis. It can be seen to have evolved from universal indeterminate medieval forms through generally determinate proto-capitalist forms to a range of contemporary forms, both determinate and indeterminate. Without a documented history, however, architects and designers, as well as the home-based workers themselves, are organising space around the dual functions of home and work, as if for the first time, rather than learning from precedent, continually reinventing the wheel. This chapter begins to reveal the richness of precedent that exists. Although only a limited number of examples have been discussed, an architectural language starts to emerge from the combination of sometimes radically different functions in a single building or curtilage. A range of design strategies, and solutions, can be traced. In some cases the hybrid function is expressed, in others indeterminate buildings are produced. This material may be of use in the design of future workhomes, but there is scope for a great deal more work in this area.

The workhome... a new building type?

Chapter Four: The 'workhome' in the twenty-first century

Interviews were carried out with home-based workers from diverse socioeconomic and cultural backgrounds, working in many different occupations and inhabiting a variety of urban, suburban and rural buildings. This was in order to achieve the second aim of this thesis: to explore the contemporary manifestation of the workhome, in part through the development of a number of typologies. The wide range of people, practices and buildings encountered presented a challenge in terms of the development of both a narrative and these typologies.

Who are the contemporary home-based workers?

The participants in this research were, in general, the 'ordinary' people of the contemporary English city¹³⁷, suburb and village. Celebrity home-based workers were not pursued, although there are many interesting examples¹³⁷. Just over half the sample of 76 were men, gender not being considered relevant beyond the goal of achieving diversity. 22 participants were aged 40-49, 21 were aged 30-39, 19 were aged 50-59, nine were aged 60-69, three were aged 20-29 while only two were over 70. The desire for diversity meant that older and younger participants were selected when possible. A fifth of the participants were from black and minority ethnic backgrounds (BME). Again, in order to maximise diversity in the sample, BME participants were selected where an option was available, for example with shopkeepers or childminders. Participants were only selected if they were engaged in home-based work for more than eight hours a week, as this was considered to be the point at which such work became spatially significant.

The participants were engaged in a wide range of 'industries'¹³⁸, including 12 of the 17 primary categories of the Standard Industrial Classification 2003 (SIC03) [see Table 2]. The industries ranged from dirty, noisy and smelly, to clean, quiet and inconspicuous. They included home-based workers providing services in their local community, manufacture and farming often aimed at local markets, Internet-based information and education sectors, and creative industries involving inter-continental partnerships and team-work across time-zones. A minority were 'invisible' informal-sector home-based workers, in

¹³⁷ London has been focused on here, and throughout the thesis, as the English city that provides most economic opportunities and a greater diversity of population.

¹³⁷ For example politicians Tony Blair and Gordon Brown in their Georgian terraced workhomes in Downing Street, author Philip Pullman who works in a shed at the bottom of his garden, artist Abigail Lane, who lives and works in a vast warehouse space in East London.

¹³⁸ While the word 'occupation' is defined as both a job and an action, standard classification systems distinguish between 'industry', as a particular branch of economic activity, and 'occupation' as the action of it being carried out. Industry in this context does not refer to the processing of raw material and manufacture of goods in a factory.

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Chapter Four: The 'workhome' in the twenty-first century

part, as mentioned in Chapter Two, because of difficulty in finding such people. A range of 53 different 'industries' was found with little difficulty. It includes the main stereotypes of home-based workers, including the tele-worker, the piece-working manufacturing outworker, the artist living in their studio and the architect in their purpose-built studio-house. It also includes the traditional but often forgotten home-based workers, the caretaker, the vicar, the publican, the undertaker, the childminder and the shopkeeper, as well as some unexpected industries, such as car repair and carpentry, re-birthing breath-work and newspaper distribution.

A. Agriculture, hunting and forestry	Market gardener
D. Manufacturing	Furniture-maker, carpenter, piece-working out-worker, needlework, soft furnishings designer/maker, curtain-maker, costume designer/maker, cook/catering, baker,
F. Construction	Plumber
G. Wholesale and retail trade:	Shopkeeper, casual clothes sales, fish and chip shop proprietor,
H. Hotels and Restaurants:	Publican, bed and breakfast provider,
I Transport, storage and communication:	Garage proprietor/mechanic, mechanic, British Telecom manager, newspaper distribution agent,
J. Financial intermediation	Corporate finance
K. Real estate, renting and business activities:	Architect, building surveyor, caretaker/manager of historic property, school caretaker, social policy researcher, IT services, wedding car chauffeur, website designer managing director of company making and distributing communications equipment
L. Public administration and defence: compulsory social security	Childminder, residential care worker
M. Education:	University lecturer, PhD researcher/student, music teacher
N. Health and social work	Alternative health practitioner, psychotherapist, nutritionalist,
O. Other community, social and personal service activities:	Artist, graphic designer, photographer, illustrator, curator, gallery owner/ picture framer, writer/editor, journalist, musician, music events organiser, hairdresser, Baptist minister, rector, wedding car chauffeur, funeral director

Table 2: Home-based industry of participants (SIC 2003)

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Approximately half these industries are ones that were included in Booth's notebooks (or modern equivalents i.e. garage proprietor for stable-keeper).

The participants were drawn from eight of the nine primary classes of the Standard Occupational Classification (SOC2000) [see Table 3]. Just over half were in 'associate professional and technical occupations' and 'above'; just less than half, were in skilled trades occupations and 'below'. No 'administrative and secretarial occupations' were included in the sample, as the analysis was made once the interview process was complete. It would not, however, have been difficult to find home-based participants in this group, had the omission been apparent while participants were being selected. In addition, one participant was in full-time education as a PhD student, living with his parents¹³⁹. This supports Hakim's finding that:

“Almost without exception, every occupation identified by the 1990 Standard Occupational Classification (of Great Britain) at the level of 73 Major Occupational Groups had at least one homemaker in it. There is no occupation in the labour force that is not carried out at or from home as well.”
(Hakim, 1998 p198)

	Managers and senior officials	5
	Professional occupations	16
	Associate professional and technical occupations	22
	Administrative and secretarial occupations	0
	Skilled trades occupations	13
	Personal service occupations	9
	Sales and customer service occupations	7
	Process, plant and machine operative	1
	Elementary occupations	2

Table 3: Occupation of participants (SOC2000)

The participants in this research represented five of the six groups of workers from the International Classification of Status in Employment (ISCE-93) i.e. employees, employers, own-account workers, contributing family workers and workers not classifiable by status. There were also hybrids of the five categories, but there were no members of producers' cooperatives. As qualitative rather than quantitative research, the spread was not

¹³⁹ This student has been included because a) he received an income for his 'work' and b) his research involved him 'working' in his home for long hours over an extended period of years, and therefore had spatial implications.

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designed to match national figures. Three-quarters of the sample were self-employed or company directors. A fifth were employed, either full-time home-based, part time home-based or in addition to home-based self-employed, or informal sector, work. A tenth were working in the informal sector and one was in full-time education.¹⁴⁰

Of the self-employed, three were retired and working to supplement their pension. Nearly a tenth were working in start-up businesses, of which only two expressed the desire to expand and to move out of the home. The majority were content to run micro-businesses from home. Another tenth, including four artists, supported uneconomic home-based self-employment with a part-time job outside the home. In some cases home-based self-employment provided participants with their entire income, while in others it contributed to a household income earned in part outside the home. Professional self-employed participants tended to refer to themselves as 'freelance', a term with higher status, while skilled trades-people referred to themselves as 'self-employed'. A number of participants were involved in running home-based family enterprises that had, in the cases of the baker, market gardener and garage proprietor, been passed down through a number of generations.

Nearly a quarter of the participants were home-based employers. More than half of these employed staff on a formal, permanent, either full-time or part-time basis, while the rest employed casual staff on an informal basis or employed staff formally but intermittently when their workload demanded it. Home-based employers in the sample included a) professional occupations, such as architecture and building surveying, b) service industry occupations such running pubs, shops or a garage, c) creative industries such as photography and costume design, d) food industries such as catering and baking, and e) manufacture, such as furniture making and electronic component manufacturing.

Employees fell into two categories. The first included those who were employed by an external employer, including full-time home-based employees for a company such British Telecom (BT), those in full-time employment outside the home but carrying out a substantial part of their work at home, such as university lecturers, and those who carried out a small proportion of employed work outside the home as an 'insurance policy' against lean times in their home-based work. It also included a number for who it was inherent to live at their workplace, such as the residential care-worker, the funeral

¹⁴⁰ These figures do not add up to one hundred percent because the groups are not mutually exclusive, i.e. a self-employed participant might also carry out work in the informal sector or an employee might also carry out self-employed work.

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director, the school caretaker, the clergy, and the manager of a National Trust historic house, inhabiting tied accommodation. The residential care-worker had moved from one set of tied accommodation to another all her adult life. One of the licensees was a soldier in the process of leaving the army where he had been living with his family in forces accommodation. He had taken on running a pub as a way of achieving a further tied accommodation situation. The second category included those who were directors employed by their own company.

While just over a tenth of participants were engaged in informal sector home-based work, none derived their entire household income from this work. In general it was used to supplement either a benefit or a low income earned outside the home.

Just over half the participants were currently, or had recently been, involved in the care of dependants. This was usually an unknown factor when the participant was selected.

76 participants overall
39 carers (26 female, 13 male)
37 non-carers (24 male, 13 female)

Table 4: Participants with caring responsibilities

Most carers were female, however the picture is more complex than it first appears, as a fifth of the participants were one half of a heterosexual couple with caring responsibilities running a home-based family enterprise. Half of these interviews were held with the male, and half with the female, partner, determined by the couple themselves, but in most cases the couple shared the care of dependants, to a greater or lesser degree.

Nearly half the sample, both men and women, earned three-quarters or more of their household income through home-based work. Thirty-one earned their entire household income through home-based work. A fifth of participants earned less than a quarter of their household income through home-based work. The size of these earnings depended on the nature of the work, ranging from those of a comfortably-off senior BT manager inhabiting a new, detached, owner-occupied, ‘executive’ house in the Midlands (LW18)¹⁴¹, to those of the young, almost destitute, graffiti artist living and working in a small run-down privately-rented industrial unit in East London, with few possessions or facilities (LW24). Two participants, the florist and one of the architects, did not draw a wage from

¹⁴¹ The participants are referred to by number: urban participants have the prefix ‘LW’, rural participants have the prefix ‘LWR’ and suburban participants have the prefix ‘LWS’.

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their home-based work, despite working full-time. The florist was 'living her dream' in running the shop, and was happy to be providing a local service and employment for one person; her husband earned the household income (LWR17). The architect had re-mortgaged his house to fund the construction of his first project; he hoped this would bring in enough work to make the practice financially viable (LW40).

The sample of participants was diverse. Drawn from across the socioeconomic and ethnic spectrum, they worked in a wide variety of occupations and inhabited a range of urban, suburban and rural buildings. The number of variables meant that most interviews threw up new material. It was frustrating having to stop interviewing, as new and interesting potential participants constantly appeared. Even as this is being edited for the final time, a participant has appeared that would have enriched the thesis. A 'cutter' in the rag-trade who has worked at home all his life in a terraced house with a large Victorian workshop building stretching out across the entire garden. His story will have to wait for some future project. This sample includes men and women of all ages, many with dependants to care for. Most were keen to talk about their home-based work and their workhomes.

The participants gave numerous reasons for engaging in home-based work [see Appendix 12]. This was an indication of the range of people in the sample. In this section, four of the most commonly given reasons (economics, ICT, travel and equal opportunities) are discussed. In each case, home-based work gave people more control over their lives.

For many people combining dwelling and workplace reduced their overheads and therefore saved them money. Six of the seven architects gave this as their primary reason for working from home, or living at their workplace. Economics were important for many people. When asked why he lived at his workplace, the graffiti artist merely commented...

"It's cheap ...no-one lives here legally... it's very loose." LW24

He was one of a community of like minded creative people who were able to carry out their largely uneconomic work by both living and working in industrial units costing only £3 per sq ft per year.

Many gained through home-based work in self-employment or the informal economy. The curtain-maker earned the minimum wage in the employment of others for 27 years before she realised she could earn more working for herself, at home (LWS05).

Some people had made an economic investment in their workhome. One of the graphic

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designers noted:

"There is a huge financial benefit to working at home, we were paying £400-500 per month rent on a studio; when we came to borrow the money necessary to build the [attic] studio we found it was the same outgoings, but paid into our own property. Why put the money into someone else's pocket? One third of our overall mortgage goes through the books as rent, and we claimed back the cost of the building work" LW04

One of the architects added:

"The time advantage of not having to travel has an economic spin-off, and we own the property, which is a major investment; it's our pension." LW08

Few participants raised any economic disadvantages to their home-based work. This was unexpected, as much has been written about the poor working conditions and rates of pay of home-based workers, particularly manufacturing out-workers (Phizacklea and Wolkowitz, 1995, West Yorkshire Homeworking Group, 1990b). That this sector of the home-based workforce is under-represented in this research has already been discussed. The shift of the UK economic base from manufacturing to the service industries has had a major impact on traditional forms of home-based work. The sole participant operating in the traditional 'sweated trade' of outworking manufacture was earning 'a penny a bend' by forming small metal electronic components. Able to make 1,000 bends an hour, said she earned more from the outwork than she did when working as a care-worker in the local old-peoples home, in part because the outwork was in the informal sector (LWR21).

The IT specialist spoke of the cost involved in organising his space for home-based work:

"There was a lot of effort involved in creating the workspace [in the spare bedroom]. I had to create an office, and the run wires all through the house, Internet cables. It was time consuming and a financial investment." LWR10

Some spoke about low rates of pay; the funeral director, working 60-80 hours a week on average, said:

"It is very poorly paid... my take-home pay is on average £1,000-1,012 per month." LW14

He did, however, acknowledge the financial advantage of his tied accommodation, which consisted of a large maisonette above the funeral parlour with a market rental value of £300 per week. He received this in addition to his salary, in return for being on 24-hour call for two out of every six weeks. Other participants also commented on the financial advantage of tied accommodation: the school caretaker had particularly wanted

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a residential job in a school:

"We lived in a council flat before, it was small, damp and had no central heating, now we have a large house and we don't have to pay rent or council tax, or the line rental for our phone." LW15

Some recognised that they would earn more if they went out to work. One of the childminders commented:

"If you go out to work you make more money. I am paid £300-360 per month. If I am working outside I can earn £200-250 per week, but money is not everything. At least now I have my freedom to do any other thing I want to do." LW48

One of the illustrators also acknowledged that she earned less working self-employed in home-based work than she would do if she went out to work and had a salary. She also recognised that she did not get any of the benefits, such as holiday or sick pay (LW38).

One of the graphic designers commented:

"You wouldn't do it if you were ruthlessly ambitious; if you are really money-motivated it just doesn't work. ...We would rather make less money and muddle through, it fulfils a wider set of needs." LW04

The curator concurred:

"You also get paid significantly less [if you work from home], and therefore feel obliged to take on more bits and pieces, which you try to juggle to fit in. I earn significantly less than I would do if I went out to work. I have been offered a full-time job from September; I would be paid four times what I get from home. However at home I do all the things I like, and I don't do any of the office drudgery." LW21

For many participants, innovations in telecommunications and information technology meant that the geographical location of their work was unimportant; their work could be carried out anywhere. As the musician/events organiser said:

"If I had a telephone and a modem, I could be on the Isle of Skye, basically. The reason for living in London used to be because of the music industry, but that has changed, I can now do everything from home." LW27

For many people the technology was central to their work. The BT manager's role was to launch new telecommunications products onto a global network. He spent 80 per cent of his day on the telephone on inter-continental conference calls, sharing and making live up-dates to documents. The rest of his time he spent doing emails (LW18). The website designer spent his working day at his bank of five computers. Briefed by email or telephone, he rarely needed to leave his flat for work purposes (LW25). The work of one of the artists also revolved around computers. In her workhome she had five operational computers, and a number of small computers that she incorporated into her art (LW31).

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Many other participants spent their entire working day at a computer or on the telephone. The writer/editor's work involved her sitting at her desk all day and writing on her computer. Her work was generally commissioned by email, and she did most of her research on Google (LW20). The curator, similarly, said that 90 per cent of her work was computer-based (LW21). The translator said simply:

"I sit at a computer all day long." LW39

All the architects were involved in computer-based design, and spent the rest of their time on the phone, on site or in meetings. Three of the photographers worked digitally; one said:

"I haven't dipped any chemicals for ten years, and I'm not at all tempted to go back... I make composite portrait images... sometimes 1,000 images are 'morphed' into a single portrait. I'm an expert in computer use... and am very keen to embrace new technology... I don't need a 1,000 square foot day-lit studio any more... I shoot on film and then digitise it. I am moving to shooting on digitised material... it is better; cheaper and easier... the photography for [big project] took four months and then the processing took eight months." LW29

The graphic designers also worked digitally and in addition, like many other participants, used their computers for leisure activities:

"Everything has become focused up here on these machines. The evening use is 75 per cent work and 25 per cent leisure use. The computers have become much more important to all of us in the family, for music, the Internet, even reading newspapers. We spend leisure time up here keeping up with new technology, learning new programmes, getting new kit etc. We also use it as a music room, having a digital keyboard. We download music here, do all our photography here and shop on the Internet." LW04

One of the academics spoke of the importance of the Internet, both for his work, and in the home:

"The importance of the Internet, since we got broadband, has blossomed for everyone... The wi-fi has changed the sense of space quite a bit. I now find myself working down here, in the kitchen, on the table, quite a bit, when I'm not interacting with the kids but I don't want to be upstairs... I can get involved in the peripheral care of the kids, policing TV, setting up painting etc... I can bring a nice lightweight computer down and work down here. So the space has been changed quite considerably with the wi-fi... I also spend two or three hours on the computer, on top of my work [in the evening], playing games, sending emails, working on photos, contacting people etc." LW28

ICT was also crucial to some participants who did not spend their working day on the computer or the phone. The bed-and-breakfast provider subscribed to a website on which the details of her thatched cottage were displayed. This, together with the local

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Parish Magazine, was the main source of her guests (LWR09). Other participants used information technology and telecommunications peripherally, or occasionally, in their work. The funeral director kept his computer in his living room and worked for two hours every night on stock control and wages, at the end of his working day (LW14). The garage proprietor said that although most of their work, involving the sale of fuel and repair of vehicles, did not involve the computer, MOT tests were now computerised (LWR02). The fish and chip shop proprietor did his daily paperwork in the shop by hand, but he did his weekly paperwork upstairs in his flat on his computer (LWR03). Two of the artists, essentially painters, used the Internet for research purposes (LW41, LW42).

However nearly a fifth of participants did not use a computer at all, including the music teacher, the clothes salesperson, the two childminders, the rector, the market-gardener, the residential care-worker, the manufacturing out-worker, the newspaper distributor, the hairdresser, the curtain-maker, the carpenter and three shopkeepers. The rector, when asked about the equipment he used, replied:

"A fountain pen. My 9.30am sermon is always handwritten... I always have a text. I don't write until I know what I am going to say, and then it comes straight out. I don't generally redraft. I can't even switch on a computer. The church provides a secretary for three hours a week on a Tuesday." LWR19

Three of the shopkeepers did their paperwork by hand. One said:

"The day-to-day admin is done downstairs in the shop, quarterly VAT accounts are done upstairs in the living room, all by hand. We have no computer." LW05

Being able to use computers, mobile phones and the Internet enabled participants to either reduce, or cut out altogether, the journey to work outside the home. Almost half the sample mentioned that not having to commute was one of the major advantages of working at or from home, or living at their workplace. An IT specialist, commented:

"I got fed up working for British industry, I used to get up at 5.30am, go to London by train and get back about 9.30pm, and I just got fed up with it. And I can manage my own time. It's cheaper than renting an office and we have got the space." LWR10

The journalist added:

"I like working at home, there's no commuting... it suits me... I had 'proper' jobs for a while... [but] I was not born to commute... I worked too far to cycle, and there is something about being on the tube at 8.30 in the morning with everyone else that just makes you want to commit suicide... I can work even if I'm a bit off-colour, when I probably wouldn't be well enough to go to work... the journey takes up a lot of energy." LW32

An architect, mother of four children, agreed:

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"This arrangement is really, really good for me because there is no travel time and no stress going to and from work; strikes, traffic jams don't affect me."
LW08

The music teacher, working two days a week at a school and three days at home, remarked that on the days she 'went out to work' she spent three hours a day travelling, which she found costly, stressful and a waste of time. The furniture-maker said that on the three or four days he had spent at trade fairs that year, and therefore had to travel, his stress levels shot up.

"There was no single day where there wasn't a transport problem of some sort..." LW09

The graphic designers with an attic studio commented:

"We've got rid of our second car... we used to drive two cars to go to the studio in Islington. There is a significant economic, environmental and time benefit... We have got an extra four to five hours each per week... It's like a big present." LW04

Not having to travel was also one of the major advantages to home-based work for the BT manager:

"There is no travel time, or cost. Environmentally it is a great improvement, I was working in [Midlands city], 45 miles away, driving 30,000 miles a year. I still have a company car, but now I only drive 10,000 miles per year. There is a major stress reduction too, I used to leave the house at 6am and then have to travel back in rush hour in order to pick up my son from nursery..." LW18

The motor engineer also remarked that home-based work was an environmentally friendly practice, and part of their choice was not to have a major impact on the environment (LWR06). One of the shopkeepers added:

"I have no transport worries, I just come down and open the shop. I have no travelling time. I don't have to travel... it would be difficult to get to the shop early enough [if I lived at a distance]." LW19

One of the artists said he cycled everywhere and used his car very little (LW29). Another artist enjoyed the ability to work spontaneously. Travelling to his studio used to take this away (LW41). For the baker, her house situated across a yard from the bakery, the advantage was...

"...not having to queue up in the pouring rain for a bus or pay your bus fare to get to work. How many steps is it across here?" LWR12

However there were associated problems with not travelling. A common lament was the lack of exercise. Participants were aware that they were no longer running for buses or trains. If this coincided with a participant who found distraction in the fridge, then it often led to an unwanted increase in weight. The social policy researcher said:

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"I get no exercise... this is a real issue about working at home... there is no walking to the bus stop, no running up and down stairs. There is a real danger of having a totally sedentary lifestyle working at home. Once a week for an hour I go to the local park for a walking group. When it works well I come back and feel really invigorated." LW01

Six participants welcomed the opportunity to run up and down the stairs all day, recognising this drawback to home-based work. One of the photographers commented:

"...Almost the only bit of physical activity yesterday was running up and downstairs with baskets of laundry, which I quite enjoyed" LW29

One of the shopkeepers agreed:

"We like going up and downstairs... it gives us a break." LW05

Another photographer, inhabiting a large work/live unit, also said he moved up and downstairs a lot (LW35). The journalist added:

"The lack of movement and exercise are an issue. I need to move more... I try to incorporate it into my day. The stairs are a blessing, I'm constantly running up and down them..." LW32

The florist, with three flights of stairs, also said that she got a lot of exercise that way (LWR17).

One graphic designer followed a daily exercise routine before she started work. The BT manager, having gained weight in the five years he had worked at home, now used an exercise bike three times a week for 20 minutes. One of the newsagents also used a running machine in his passageway for half an hour each day and one of the architects had a punch-ball in his living room he used daily. An artist swam half a mile two or three times a week and "cycles everywhere" and an academic spent his lunch hour every day cycling across London to source the ingredients for the evening meal.

Without the sense of 'going home' after a day's work, almost a third of the sample, men and women, spoke of having difficulty in stopping work. For some, such as the newsagents, the publicans and the funeral director, long hours were inherent to their job. However many other participants also spoke of the difficulty of spending too much time working. 'Going out to work' and 'coming home' define a clear start and finish to the working day. Without the physical journey to impose these boundaries, some participants found themselves both unable to switch off, and working exceptionally long hours. For many this was a result of their interest in, and enjoyment of, their work, as in the case of this website designer:

"Live and work is one but the work can dominate... my problem is not motivation to work, it is motivation to stop working. There's always more things to do... it's hard to say no if something attractive comes in" LW25

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And this artist:

"I try to stop before 11pm, but sometimes I go on... last night I was up until 5am. I am working much longer than usual as I have three shows to prepare for... I have two large and four small paintings to finish before I go to Japan in ten days time. I hardly know when the weekend is... I really enjoy this lifestyle, but relaxing is difficult. That's the thing I really miss, is sometimes being able to switch off. Which is nearly impossible when I'm trying to switch off and my work's 20 yards away, and I know I can go and do something. I have no complaints about the quality of my life, but you can't get away from your work, you can't switch off." LW42

One participant also recognised that one of the other functions of 'going to work' is that it enhances the enjoyment of 'home' as 'non-work'. The PhD researcher, inhabiting a bedroom in his parents' ex-council flat, found he needed to develop strategies to get away from his work (and his parents):

"I feel 'driven out' of the house by my work. I try to go out in the evenings and at weekends, as I feel less tolerant of my family when I am in a lot. I would like to come back home and read, and have a quiet evening in, but because I'm at home all day, I can't stay in. I would enjoy the comfy chair in my room more if I didn't work at home. Working at home reduces my ability to enjoy being at home." LW46

He played sport, combining the need to 'get out' with an activity that counteracted the essentially sedentary nature of his work.

Many people spoke of being able to be economically active through home-based work in a way that would not necessarily be possible for them in the labour market. The website designer had been a regular office worker, but was suffering from a long-term illness/disability. Home-based work meant he could keep working:

"Going in to a regular nine-to-five, commuting, to someone else's premises, is daunting and probably not beneficial to me. This model is, realistically, the only thing viable at the moment, and something I prefer to do... if I am tired at 5pm I can crash out for an hour or so, or 10am, or whatever, an office doesn't give you that flexibility..." LW25

The young mixed-race female illustrator used home-based work to avoid discrimination through being judged by appearances. She said:

"I like the flexibility of working at home... I like the fact that I am anonymous. There's no judgements being made on me about what I look like, people just take me for my work. I get work from my website, and it's very rare I meet customers. I'm not very confident in that department." LW38

This thesis interprets the issue of equal opportunities as extending to the question of 'family-friendly' employment practices. One of the most common reasons given for working at or from home, or living at the workplace, was the ability to combine paid

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work with the care of dependants, especially children, enabling parents, and in particular women, to remain economically active through their childrearing years. Around a third of participants' working lives were organised around their children's school day. The social policy researcher's experience was typical:

"I don't work for long stretches at a time, but work in little chunks; it's quite efficient; I start at 10am after my child goes to school. I work in the morning and break quite a lot to put a wash in or clear up the kitchen. I work for no more than one hour at a time... I get stiff at the computer. I can't turn the computer on until my daughter is at school. Then I work through to 3.30pm when my daughter comes home. I do a bit of work while she does her homework or watches TV. My son comes home at 5pm, and I stop work properly then. My daughter is in bed at 8.30pm. On alternate nights I go back to work then until 10pm, often working alongside my son doing his homework. When I worked in an office I never brought work home. Now I do fit work into evenings and weekends. I am sure I am more efficient... I do fewer hours [now than I did then]." LW01

This pattern existed for men as well as women, the musician/events organiser commented:

"Family-wise, it works in really well... in terms of childcare, I have become the primary carer... [When the children were younger] I took the kids to school, picked them up, and then could work in the evenings if I wanted to. I would fit in domestic work... I'd get up, log on, and then put the washing on... I'd do little jobs that only took five or ten minutes. My partner was leaving at 6.30am and getting back at 7.30pm; then she would just have supper, have a glass of wine and go to bed... if I was doing that too, it would be hard on the children... Working at home you can start as soon as you get up. It is really efficient in terms of time, definitely more efficient." LW27

The hairdresser started home-based work when she needed to support herself and her child, after her husband left them (LWS04). One of the childminders, a sole parent with three children, wanted to make sure she was there for her children at the start and end of the school day and in the holidays, so qualified as a registered childminder (LW47).

Other participants combined their paid work with the care of sick, elderly or disabled dependants. The managing director of the manufacturing company said:

"Our first child, Tom, was born severely disabled in 1990, and needs constant care. I thought, 'Is there something I can do from home, to help?' so I set up the company with an ex-colleague from [large corporation], and both of us have worked from home ever since. The most important thing was to be around, to support Louise and to help with Tom's care. I can help looking after the other children while Louise is doing something with Tom, such as going to hospital for an equipment check, or while she's working, if Tom is away at school." LWR15

The building surveyor installed a Portakabin in his back garden to enable him to combine the care of his sick wife and young children with his paid work.

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"My wife has periods of being ill, in and out of hospital, and we had young children, I was thinking of not being at home, but being quite close, and this thing [Portakabin] in the garden was suggested as a fairly good way of doing it. I can walk out of the house, shut the door and completely forget about my house. When the children come home from school, I can open the door and just watch them doing their homework. It's very convenient that way."
LW36

The re-birthing breath-work practitioner inhabited the flat two floors above that of her elderly mother. Home-based work enabled her to make twice-daily visits and take her to the hairdresser etc:

"So part of my day is popping in on my 91 year old mother downstairs; I usually visit her twice, one reasonable visit (about an hour, usually around lunchtime, I sometimes make her lunch) and one short one... The second visit is usually between clients in the afternoon, just to check that she's all right, or to see if she wants me to go and buy her some cigarettes up the road...." LW49

Nearly half the participants, men and women, also said they integrated housework with paid work. This was particularly the case for couples with children where both partners 'worked', freeing the conventional 'housewife'. One academic moved constantly between her purpose-built study and her kitchen as a way of taking breaks from her work, particularly enjoying preparing the family evening meal through the afternoon while continuing her work. She said:

"My intellectual and domestic work is totally integrated. I am constantly on the move, getting up to do the washing, go shopping, do yoga, tidy up, weed the garden, booking train tickets, I let myself do them as a break. It is completely enmeshed. I can't sit still for very long, or be in one space for ever. I never work for more than a short chunk at a time. I am constantly on the move; I will never get RSI... I do invisible work the whole time. I have a central domestic role, but manage to weave in a serious academic job, partly because I have made this space that works very effectively. I oscillate all the time, both mentally and physically... I like the movement between the kitchen and the workspace." LW06

Many participants spoke of continuing their thought processes while carrying out domestic chores. The social policy researcher found the process...

"...relaxing, it can clear your head. I am often thinking about the structure of a report or something while I am unloading the dishwasher, you don't stop thinking about it because you are doing something else. Women multi-task all the time." LW01

One of the photographers commented:

"Yesterday I really enjoyed doing a day's work and the laundry at the same time as it meant I could come out and get a breath of fresh air, throw the washing over the line and get a bit of sun..." LW29

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Overall home-based work emerged as an employment practice that, because of its inherent flexibility and potential for anonymity, offers a high degree of equal opportunities. The sample included a number of people who would find it difficult to work in conventional employment as a result of illness, age, or their domestic and caring responsibilities. It also included people who enjoyed the fact that they did not meet their clients or customers, who did all their work over the Internet. One mixed-race participant, and another, pregnant and caring for a small child, really liked the fact that they were judged by their work alone rather than by what they looked like.

A detailed knowledge of how the participants ran their lives helped in the development of an understanding of their spaces and how they used them. Some participants did not differentiate between 'life' and 'work'. The costume-designer/maker said she had no standard day:

"There is no clear divide between weeks and weekends, or between days and evenings; work and life just flow. I don't have the concept of 'knocking off'; work dominates my life. [Her friend said, "She virtually sleeps under her bench..."]. I love what I do; it is part of my personality. I don't make the separation between 'work' and 'life'..." LW07

Constantly working to deadlines, and living alone, she had created an open-plan workhome in a standard industrial unit so she could accommodate her working life, which often involved missing weekends and nights' sleep. She often designed her work on a sofa in the evening while she was 'relaxing', and watched television from her ironing board during the day, while she was 'working'. One of the photographers, successful, established, and inhabiting a large work/live unit, also did not differentiate between 'life' and 'work'. He worked fluidly from 8am until 7pm, starting again at 9.30pm and often not finishing until 1am. However he took generous breaks to cook, entertain friends, watch football matches. Although rarely doing shoots, he worked on the computer most weekends:

"I don't see any borders between my private and professional life at all. I find it very difficult to build them, and really there aren't, if I look at my tax return, it's blurry... I can travel all over the place, and stay on a bit longer... is it holiday or work? I'm still working, still taking pictures. I can't say that personal time is not work time... it just never happens." LW35

Some participants, by contrast, kept their 'work' and the rest of their lives separate. The plumber had a fixed routine, starting work at 8.30am and finishing at 6pm. His wife, who worked 10-15 hours a week on the family business (strictly between the hours of nine and five), typed his estimates for him (LWR08). Similarly the home-based IT specialist, whose work also involved visits to clients, started his working day at 6.30am, taking half

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an hour for breakfast at 7.30am, and then leaving the house at 9am. Some days he was out all day, others only for a short period. He did not take a lunch break, and usually tried to finish by 6.30pm. It often slid to 7.30pm, but he rarely worked at weekends. He said:

"I'm very strict, I spend most of my time in the office [upstairs in his spare bedroom]. She [the wife] has got used to that; I say to her 'I'm at work'. Monday to Friday it's completely different to Saturday or Sunday, when we are just like a normal couple. I'm very disciplined; you have got to be." LWR10

There was a wide variety in terms of patterns of work. Some participants worked irregular hours because of the nature of their work. The BT manager worked on the company's global side. His work involved running a team based partly in the US, partly in Australia, and partly in the UK. The different time zones meant he worked odd hours, which he integrated with the equally odd hours of his four-year-old son. He would often take his first conference call at 5am, and would work late into the evening to work with his US colleagues. Working at home meant he could take time off whenever he wanted to in the middle of the day. He said:

"I like the flexibility. With my son, it's absolutely brilliant for that... I love looking after him, and I can handle the time zones a lot easier..." LW18

One of the illustrators also worked across time zones. She said:

"I work a lot for people in the US. Their day doesn't start till 5pm, so I have all day to work, then I'll email them stuff, wait a couple of hours, do my own thing, then I'll have conference calls about 9, 10, 11pm maybe 12pm or 1am. Then depending what they need, I might do it there and then, for their day, or I might do it for the next day. It's really difficult, because you are dealing with time zones. I might be working till 4am, if I have a lot of work on, probably 85 per cent of the time... then I usually crawl into bed, and get up at 9am, then start again." LW38

She had developed a lifestyle in which she could go climbing when she chose, often for four or five hours in the afternoon as the climbing centre formed the hub of her social life.

"It also means I can just pop out, I've got no boss, I am my boss. My other passion is that I like to climb, so I can do that in my spare time." LW38

'Spare time' is an interesting concept in the life of someone who admitted to regular 12-15 hour working days, but by being able to work when she chose and having the self-discipline to meet her targets and deadlines, this successful illustrator was able to carve out the time to carry out her hobby. This simultaneously created the necessary social interaction in her life, leaving her to work in a completely focused way at home, without all the interruptions that can be generated by the conventional workplace.

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Some participants worked irregular hours because they enjoyed that way of life. The mechanic, frustrated by the lack of flexibility inherent in most urban dwellings, had created an urban version of the suburban life-style of his youth by converting a disused pub into a combined dwelling and workshop. He said:

"I work through the evenings if I have nothing else to do. Work is completely integrated into my life; I have no sense of 'work' and 'not-work'. I wander up and down; people come round for an afternoon tea break. I don't stop at 5.30pm.... some days nothing gets done. I often do my paperwork and pick up materials in the mornings, and then start work at 1pm. Then I work through until 9pm... I can work at any time of day or night, whenever I feel like working..." LW12

The work of one of the Baptist ministers also had no particular pattern, although Sundays were busy and he had a day off on Monday. Averaging 65 hours a week, he spent a lot of time in his study, preparing his two weekly sermons, and often jumped up in the night to do something he had forgotten (LW17).

Some participants, mostly without caring responsibilities, worked excessively long hours. In some cases this was because of the nature of the work. The funeral director would leave 'home' (upstairs) at 8am, and return at 11pm. During the day he would attend funerals and check out the routes for the following day, in the evening he would visit clients. He said:

"You are always on beck and call. It can be depressing, if you let it get on top of you. You are waiting for the phone call all the time, you don't actually sleep, and you just catnap all the time. Weekends are more flexible, I have more freedom." LW14

Most of the shopkeepers also worked long hours. One described his day:

"I get up at 5.30am, I go into the shop at 6.30am every day of the year. I spend three hours sorting out all the newspapers and magazines; then I replenish the stock. Then the wife comes in and relieves me for two or three hours. My nephew helps me out; he also starts at 6.30am. I go off to the cash-and-carry at 9.30am every two days and my nephew runs the shop for four hours while I am away. We close at 7, 8, 9pm, depending how busy it is. My wife makes 100-200 samosas every two or three days, I help her. It takes four hours, after the shop closes. It is stressful; we work very long hours. My brother-in-law used to live here as well, with his two children, as well as my mother. I had a lot of helping hands helping with the children... my mother used to cook, look after children, make the samosas [his mother died last year... for 15 years there had been five adults and three children living above the shop]. It made a lot of difference when there were lots of people living here. On Sundays we close at two or three pm, we have a bit of a break, go to a movie or do a bit of gardening." LW19

In other cases the long hours were 'self-inflicted', the result of an obsession with work. A

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Figure 91: Manufacturing outworker's equipment and materials (LWR21)

painter, living and working collectively with six other artists in an industrial building, said his life completely revolved around his work. He got into his studio by 10am, seven days a week, took a two-hour lunch break between 1pm and 3pm, then went back to the studio until 8.30pm or 9pm, when he stopped for dinner and a glass of wine. He then returned to the studio at 9.30pm or 10pm, and tried to stop at 11pm, but sometimes continued. The night before the interview he had worked until 5am (LW42).

However, some participants worked only a few hours each week¹⁴³; in some cases this was a result of caring responsibilities. One of the photographers, the mother of a two-year-old child, averaged one shoot a week, totalling 8-10 hours work. Sometimes she did two. She said:

"As my daughter gets older the work will develop... It's a way to keep things ticking along, really. Over these few years I would rather spend as much time at home [with my daughter] as I can". LW03

In other cases this was because the participant was only interested in earning the proverbial 'pin-money'. Unlike many of her nineteenth-century counterparts, the work of the participant working in manufacturing out-work was barely visible in her neat ex-council house, and had almost no impact on her life, either in terms of time or space (LWR 21). The equipment and materials were stored in a small box on the table of her conservatory [fig 91], and she worked at will. Comparing her work to knitting she said she enjoyed doing it ("it's addictive"), and could do it anywhere in the house. Her preferred location was the conservatory, where she could watch the birds and cats in the garden while working. She tended to work 10-12 hours per week, generally in two-hour bursts when having coffee with a friend, or watching the TV. She worked just for holiday money and 'treats'. Her husband was the primary breadwinner, working outside the home.

Some participants were elderly and worked a few hours a week in order to top-up their pensions, to stay active and to increase the level of social interaction in their lives. The newspaper distribution agent was 70. She worked 12 hours a week, spread over two or three days. Her papers [free advertising papers] were delivered weekly, as were her leaflets. She would spend several hours each day sorting them out into 17 different rounds, and then delivering them to her door-to-door distributors, which would take four hours. If she did not have enough deliverers, she would do some of the door-to-door work herself. She had enjoyed the work in years gone by, having done it for 25 years, but found that the social side had diminished:

"I don't like it now... things have changed at the papers... it's not friendly

¹⁴³ Participants were selected on the basis of being in home-based work for a minimum of eight hours per week

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now, you don't even get a Christmas drink and Quality Street... we used to go for a meal a few times a year. I don't mix at all... it used to bring a social life with it. I don't know the people who have replaced the old ones who have left. Working in a suburb of [city]... I used to enjoy stopping on people's doorsteps for the gossip..." LWS01

Many participants interspersed their work with domestic activities as a way of both getting the chores out of the way and of giving themselves a break. One participant's partner (both domestic and business) set herself work targets for each day...

"...for what I want to get done... if I can fit in domestic work, then that is all the better, because it means I don't have to fit it into the evenings or weekends..." (LW26)

A number of participants expressed the fear that the ordinary realities of everyday life, leftover stickiness on the kitchen table or the sound of the washing machine, would in some way undermine their personae as professional workers. An architect inhabiting a self-designed studio-house with a second floor studio space, commented:

"It's not really a professional office is it? There is a limit to the professional 'front' you can have. No matter how good your work is, how much you have had published, whatever people think of you, they get here and they say 'oh, you work from home...' There's definitely a stigma attached to that, I think. It is better than working in a back bedroom, but there is a stigma based on a) pure size: the practice can't be very big then, there's only one or two of you, and b) possibly attitude... what, do you sit around doing my project in your dressing gown when I'm paying you large sums of money? You can't be that serious... It's an anxiety... I'm not sure to what extent it is true... Having your home near your office definitely isn't a bad thing at all, but there's a division somewhere, having a separate front door, not tripping over someone's washing as you go upstairs, not having their breakfast on the meeting table, it's things like that. I'm not sure I'm taken seriously... other architects joke about it. It's partly jealousy, of course. Domestic clients don't care; they really love seeing me here. Corporate clients would have a very different attitude; but we don't have any corporate clients... it's a chicken and egg situation. My friend used to have meetings in the British Museum café so he didn't have to take corporate clients home..." LW43

This raises the question what 'is' professional? The Concise Oxford Dictionary defines it both as 'relating to, or belonging to, a profession' and 'worthy of or appropriate to a professional person', and defines a professional person as 'a person having impressive competence in a particular activity'. Clearly this participant's space met the first definition of professional. Although his studio was small, and contained a certain amount of 'junk' waiting to be relocated, the strewn drawings, papers, computers and models indicated the nature of the work that was undertaken, and the building itself spoke of the design quality the practice could achieve. However the participant, in his mind, wanted a different sort

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of space, a large, separate, non-domestic scale studio, and looked forward to the day that his practice would be successful enough to be able to support this. This stemmed from the second definition: he wanted a space 'worthy of or appropriate to a person having impressive competence in a particular activity', in his case designing buildings. In his mind a small second-floor studio above his bedroom and bathroom, with his laundry hanging inventively in the space above the stair, and meetings held on the kitchen table, breakfast crumbs and all, was neither worthy nor appropriate, and did not suggest he, as an architect, had impressive competence. It suggested he was keen and talented, and starting out. Another architect, inhabiting a live/work unit he had designed himself, expressed a similar problem:

"I would move out into larger, separate premises if a £10 million project came off; I would welcome that. An architect's office should be a barn-like structure with a 6m high ceiling, open trusses, big industrial windows, just like the warehouses in Shoreditch. That is what I would like. This is a domestic-scale space; the design was informed by outside parameters and site constraints. Ideally I would want more space, of a non-domestic scale. Its all alright to say that we designed the whole street and this is the unit that we have, but people think it is not a proper office... they know that I live here. From a commercial point of view, it doesn't feel like a proper office, so clients don't take you so seriously. They think you are not big enough, that you haven't got to the point of having your own proper office yet." LW23

He considered his domestic-scale live/work unit to be inadequate by comparison. There were no personal items on display in the spaces used for work, which may have been an attempt to get them to approximate more closely to the 'lived' space of an architect's office, and the building was kept exceptionally clean and tidy. However, as a result, this building did not appear to fulfil either the domestic or the workplace function altogether successfully. An internationally successful photographer, who worked in a basement room in his end-of terrace house, added:

"I don't really like meeting here [at his home] as you have to look at the children's laundry, or the uneaten cornflakes..." LW29

He generally organised meetings in local cafes rather than in his home.

An architect, who had worked in her house before she built the mews-style office at the bottom of her garden, remembered:

"There were problems having meetings in the house around the kitchen table, with the budgies. In one really important meeting with a contractor and a client the budgies started chattering away, joining in. We had one very bad meeting where it really didn't work for the client." LW08

In her new set-up, the domestic was kept firmly in the house, and meetings were held in a designated meeting-room in the office. A graphic designer with a purpose-designed

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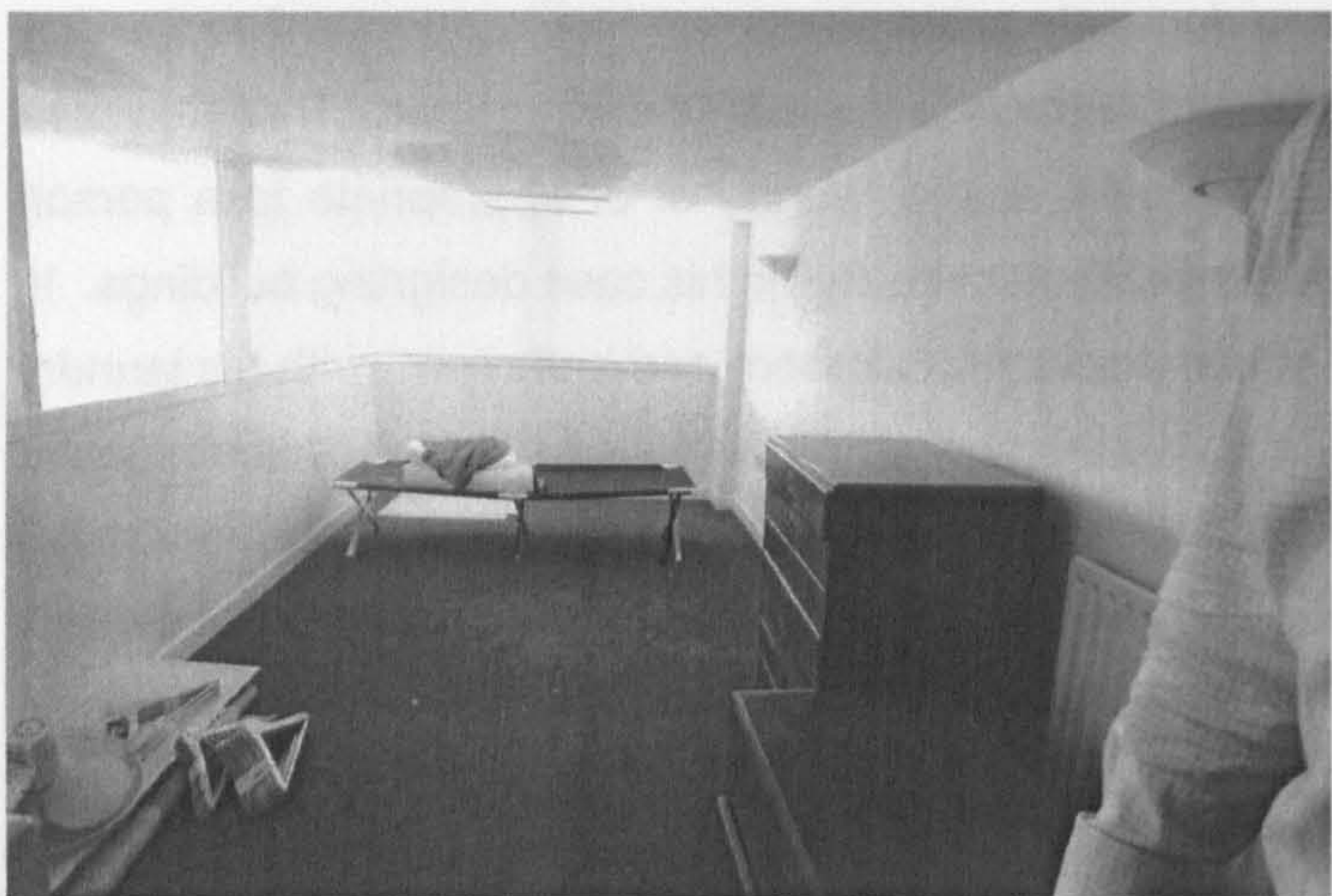


Figure 92: Start-up businessman's sleeping space (LW50)

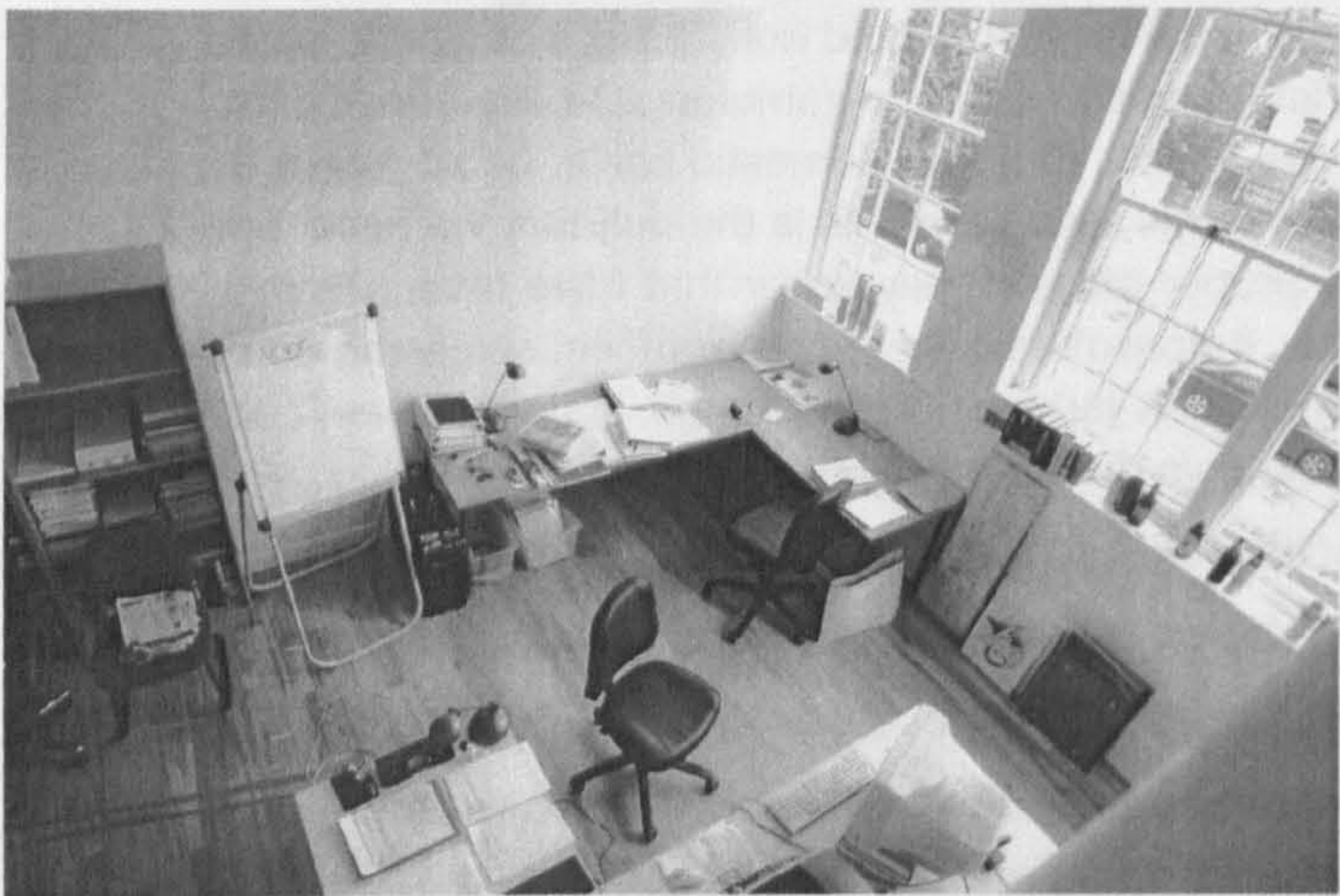


Figure 93: Start-up businessman's living/working space (LW50)



Figure 94: Start-up businessman's spare suit on the coat-hooks (LW50)

studio in an attic-conversion on the second floor of their terraced house, commented:

"If I go down to the kitchen to make a cup of tea and the phone rings and the washing machine is on, I'll always turn it off before I answer the phone... You don't really want someone to know you are putting washing out on the line during the day; it's not good." LW04

The public areas of her house were kept spotlessly clean and tidy, and without personal items on display, to make it appear more business-like. The participant spoke wryly of their struggle to keep their teenage sons from covering their bedroom doors with posters and graffiti. One participant removed the family photos and children's drawings that had accumulated in her study:

"It had become too domestic. There are no family pictures now, I wanted it to be more professional, to look more academic and to be taken more seriously..." LW06

Another participant, a start-up businessman in corporate finance, inhabited a small open-plan affordable live/work unit, set up as an office, almost completely without domestic comfort (LW50). A small camp bed with neatly folded bedding on the mezzanine, and a spare suit hanging on the coat hooks (fig 92, 93, 94), were almost the only indication that he did, in fact, live as well as work there. Working excessive hours, he literally just lay down to sleep when he was too tired to work. For him home-based work was a means to an end rather than a chosen way of life. His ideal was to have a spatially separate dwelling and workplace, preferably a smart City office. However this would only be achievable once his business was established:

"... people in the City think you have got three heads or Aids if you work in [Midlands city]... they would be appalled. They don't even know I am in [Midlands city]; this is a hidden location, I use a business card without a geographical address on it. I am highly tactical, not a fraud." LW50

He was ashamed of the humble and makeshift nature of his working environment and, considering both the practice and the location to be unacceptable, hid the fact that he inhabited an affordable live/work unit in the Midlands from his City clients. As soon as his business was viable financially, he planned to set up a separate office and move into a separate home.

The building surveyor was unusual in his lack of concern about his professional image and how he was perceived by the outside world. The not insignificant problems involved in having members of the public in his Portakabin workhome were summed up as:

"There is a difficulty coming through house... problems with the dog [who bites people, especially large black builders...], and problems of clambering across a building site to get into the office." LW36

In addition, his house was untidy, not spotlessly clean, and in a state of disrepair.

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Although he sometimes had meetings with new clients at a café at their request, about once a month a 'strange' client would come in, and regular clients and builders visited frequently. His attitude was...

"...so long as they pay, that's fine."

Participants raised a number of social issues. A fifth of the sample expressed some concern about the social isolation they experienced in their home-based work. One of the academics, working in a bedroom of his three-storey terraced house, said:

"There is a significant disadvantage [to home-based work] with the social isolation." LW28

One of the illustrators, inhabiting a live/work unit, said:

"It can be lonely. There is a lack of social interaction with people; you can pinch yourself and think 'god, I haven't actually been outside for a week'..." LW38

The soft-furnishings designer/maker said:

"I get very isolated working at home... I want to be with people or talk to people, which is why I take off to have a coffee with friends three times a week." LWS02

An architect, working in the back room of his terraced house, commented:

"Isolation is a problem; I could do with someone to discuss work with, to bounce ideas off... The simplest tasks seem to take forever to resolve.... I have a tendency to indecision... especially over business issues." LW16

The BT manager added:

"There is a lack of talking to people, of office banter. I do have a network of phone contacts (I already do 50-100 emails a day, I don't want to do more emailing) and I use Instant Messenger, and will ring and chat with a friend when they are online, maybe once a week. Occasionally I feel isolated, but it never gets me down, because it [home-based work] works so well for me." LW18

The journalist also found she became isolated:

"It's not very good for you, mentally, to spend so much time alone... I have a pal, and I email her a lot, but it isn't real... she's in her little hole and I'm in my little hole.... I need to keep an eye on myself in terms of isolation and mental health." LW32

Another architect, working in his self-designed studio-house, also struggled with isolation:

"It can get really depressive working at home... on my own, I enjoy it to a certain extent, I enjoy having my own space... it gives me a break from my partner, or from colleagues. Sometimes I feel as if I am not socialising a lot, it can be a very isolating experience. I don't arrange to have lunch with people... In theory I have the flexibility to be able to go out, to go to exhibitions, but for some reason I don't... maybe because I don't have anyone to do it with? There are lots of people who have the flexibility to do

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Figure 95: Graffiti artist's community (LW24)

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that, but there is always the sense of busyness about yourself that you never have the time to do anything..." LW40

The writer/psychotherapist said:

"If I'm upset I can want to 'go out to work' ... I can want someone to ask about my weekend or to be able to tell someone I have a headache..." LW44

A number of participants spoke of the importance of collective space in preventing isolation. The furniture-maker spoke of the community he was part of, on an industrial estate:

"It's a lovely community, buying the freehold means we are all committed to each other and the community. It's very friendly and neighbourly. There are no other kids, and only three units where people are living [as well as working]. No one would 'grass them up'. Everyone likes it that we live here as well as work here... it provides an extra pair of eyes, makes it more secure... We've recently put in new collective bike racks, and do collective gardening." LW09

One of the photographers, inhabiting a live/work unit in a gated development of more than 100 units, commented:

"I really enjoy being part of the [live/work development] community, there are creative people around all day... I have no sense of isolation. I have the big doors open in summer, and meet people because they walk past... we just talk to each other." LW03

The graffiti artist, inhabiting an industrial unit in one of three adjacent buildings full of artists and other creative people, also spoke of the importance to him of the community of which he was a part [fig 95].

"I love living with the people. There are carpenters, product-designers, drummers, filmmakers, and loads of musicians, record producers, all living and working here. It's almost like an art-house film I'm living. The yard is a collective external space where the community gathers. Sometimes there are 15 people chilling out there, sitting on sofas around a big fire of pallets. We use the walls of the yard, and the corridors, and on the roof-space, to paint, and to teach others to paint in the yard... we're having a 'paint jam' soon." LW24

The photographer who inhabited a large work/live unit, part of a development of eight work/live units, commented that the rear yard was used as a car park, but also for socialising in the summer (LW35).

A number of participants were part of informal home-based working networks, some physical, some virtual. The website designer with a long-term illness, working in the front room of his first floor flat, had a daily meeting with a friend who was also a home-based worker, a ten minute walk from his workhome. He conceptualised her as a colleague, although they worked in completely different fields:

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"[xxx] is my 'co-worker at the water cooler', I know all the stuff she's working on, and vice versa, so it does become an environment where you can go in and talk about little bits of progress you have made and so on, frustration with a client." LW25

The architect with a tendency to feel isolated had on-line support:

"I use 'E-cademy' and other such on-line resources as a strategy for making contact with people... from whom I can get feedback... those relationships are essential to me." LW16

In some cases, participants inhabiting purpose-designed workhomes remarked that the opportunity to incorporate collective space had been missed. One architect, inhabiting an open-plan live/work unit in a development of 27 live/work units, said:

"It's quite handy having a whole bunch of other people doing similar things around. Occasionally I borrow things, or they borrow things, or we do things together... I'm in the corner here, so if I leave the door open, people don't tend to walk in, but I've got a friend next to the lift and the staircase and he gets to see a lot of what is going on. I know a lot of people here... We need a shared space, but it hasn't happened, apart from the formal Indian restaurant [on the ground floor]. We really needed a bar, or a café where people could have breakfast. It's a missed opportunity." LW45

The start-up businessman, in his affordable live/work unit, part of a development of eight live/work units, concurred:

"There is no collective space for the eight units in the scheme, that includes a photographer, an IT specialist, an on-line fashion designer, some ceramics designers, a craft import business and myself in corporate finance. We bump into each other in the corridor... but rarely go into each other's units. If there was some collective space it would be excellent." LW50

A number of participants, working alone and unsupervised, found distraction was an issue. The most extreme example was one of the Baptist ministers. She, however, focused on the positive aspect of distraction:

"I have a problem with computer games... if it gets a bit of slack, I go into slob-mode... this involves computer games, if I get addicted to a computer game then everything else gets ignored until I have conquered the world, or whatever it is... I might spend a whole week in slob mode... and play two to three hours a day computer games, guiltily, hoping no-one catches me... the pleasure of it... it is very important for a minister to be bad... sometimes I watch an afternoon film. Once I had a day when I had six or seven Baptist ministers here, all bunking off work, on a Monday, we started at 10am, and watched the whole of the Lord Of the Rings DVDs, all day and all night, until midnight... it was like a ministers' 'away-day', wicked, but very productive really, all sorts of interesting conversations happened in the crevices of the day. It couldn't possibly happen at 'work'." LW11

The writer/editor said:

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"I get a bit distracted by the Internet and email and very easily lose track of time, I can [also] find myself emptying the compost or cleaning out the fridge. When I'm under pressure, I'm very disciplined and don't get distracted, but normally it doesn't matter. I do it because I'm a bit bored." LW20

One of the architects agreed:

"It's difficult... I get distracted by the domestic, it can easily take over, I go to the post office and it can take 45 minutes out of the day..." LW26

The caterer/preserves maker also found she was easily distracted...

"...by the TV, or by domestic things..." LWR07

She thought she would be a lot more efficient if she was single-minded. The translator said:

"I get distracted by the Internet, not by things around me... because I'm not being supervised I really can waste some time, as no one knows what I'm doing." LW39

One of the academics agreed:

"I do get distracted by the Internet; I read stuff tangentially related to my work." LW28

The architect who worked in the back room of his terraced house had a similar problem. He only had an Internet connection in the living room of his house, so physically moved his desktop computer each morning into the living room to do his Internet-based work and then retreated to his rear workspace so that he could work all day without the distraction of the Internet and email.

Another participant, however, was tolerant of distraction when it happened, making a distinction between 'being distracted' and 'finding distraction':

"...It isn't things distracting me, more me finding distraction... sometimes I can't do my work, so I might watch TV, take a nap, make some food, anything rather than work... but sometimes I come in and just get on with my work, nothing can distract me. It depends on the state of the job... it might also be a state of mind... it might be that I have had a tough day, or something is on my mind, or I've got no ideas, or I just don't feel in the mood to do it, so I don't, sometimes I force myself to do something and then it's no good. ... distraction can be seen as an advantage... I can work at any time of day or night, when I feel like working." LW13

One of the photographers had mixed feelings about her neighbours. While they prevented her feeling isolated, they also distracted her:

"...I sometimes wish the office were upstairs where I could hide away a bit. I have the option, but we value the space more as a third bedroom. Concentration is an issue for me, working in an open-plan space at the entrance to the unit, both in terms of the child and in terms of neighbours walking by." LW03

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Stress was another issue that was raised, although in general the participants found that home-based work was less stressful than going out to work, and found it easier to deal with stress in the workhome environment than in the conventional workplace. One of the Baptist ministers had developed a successful strategy:

"On Sunday night I am always very irritable... it's a stressful day... I come home at 7.30pm and don't know what to do with myself, sometimes the only thing to do is to play a computer game, KILL, KILL, KILL, after about an hour I will feel better and you can have a conversation with me... it does me a lot of good. You can't be good all the time. I use such strategies to disperse negative feelings... it's usually not a problem at home, it's much more difficult in a conventional workplace. You need downtime in any occupation." LW11

Half the sample said they enjoyed the freedom and flexibility that home-based work offered, including the ability to be able to work when they chose to and the degree of control it gave both in their work, and their lives in general. One participant's husband had a job that involved working away from work for a fortnight and then having two weeks off at home. She started home-based work as a response to this, developing a monthly cycle of working long hours while her husband was away to compensate for working little for the fortnight when he was at home. Home-based work enabled her to adapt her life to the rhythm of his work, while simultaneously being able to care for their children as a lone parent while he was away (LWR13). The nature of other participants' work involved regular tight deadlines, often resulting in the need to work flexibly:

"Because of the nature of the business [costume designer/maker], working here [purpose-built live/work unit] just gives me that sort of flexibility, you can do an extra hour in the evening and it doesn't feel quite so painful as you haven't got to go home... I can quite happily do until midnight here if I have to.... Then deliveries, sometimes I am kicking things out [to couriers] at 7am, I've done it in my dressing gown before now... getting things delivered is also much easier, because you are always there." LW10

For some people there was an issue of privacy. The music teacher said:

"I don't have a complete sense of privacy ...even when I'm walking around [xxxxxxx] I have the consciousness that I'm the piano teacher" LW02

However the fish and chip shop proprietor commented:

"...Some people might say you get too well known, everyone knows you if you live and work in the same place. That doesn't bother me. It's very beneficial of the local community... it depends on your personality." LWR03

Of the 76 participants, four were of uncertain employment status, working in the informal sector without employment protection. However, none of these was solely dependent on this informal sector work for their livelihood. Two were claiming benefit, one was working to boost a low household income from work outside the home, and one combined

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informal work with self-employed work. One participant was in conflict with her employer about her employment status. A newspaper distribution agent, earning between £30-£70 per week as a top-up to her State Pension, she was described as 'self-employed'. She had carried out this work for 25 years for the same employer, who had thereby avoided having to pay her benefits such as holiday or sick pay or, more recently, the National Minimum Wage. She had become impaled on new regulations for the payment of Public Liability Insurance by self-employed people, at a cost of approximately £1,000 a year. Averaging between a half and three-quarters of her total income from her home-based work, this was clearly unacceptable. She had contacted the lobby group, the National Group on Homeworking (NGH), for support in her claim against her employer that she was an employee rather than a self-employed person.

The vast majority (71 out of 76) of participants, however, said that they either liked, or loved, home-based work. The social policy researcher commented:

"I absolutely love working at home... you have complete control over your time... you don't have to deal with other people's crap, chatter, and talk about budgets." LW01

The music teacher added:

"I enjoy it, it feels really relaxed, I can be friends with everyone, and meet all the parents." LW02

One of the architects said:

"This arrangement is really, really good for me." LW08

The furniture-maker commented:

"I can't see any disadvantages, personally, it is all good, especially with a family" LW09

One of the academics said:

"I like it as a style of work, it suits me and my style of research; it's very productive for me." LW28

The journalist added:

"I'm really happy working from home, I can laugh at my own jokes as I write... I used to giggle at the [newspaper], but it wasn't acceptable." LW32

The managing director of the manufacturing company [with a severely disabled son] said:

"It's ideal... my wife and I work like a well oiled machine." LWR15

It was not just the middle-class professionals who said they enjoyed it. So did many blue-collar workers, such as the garage proprietor, who said:

"I like living next door to the business... I would say it's a lot better." LWR02

The fish and chip shop proprietor concurred:

"It's what I wanted... I've lived away from the shop a 20-30 minute drive, and

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you sit in the shop in the afternoon because it's not worth going home and it's a pain... also if you forget things... This is a choice. I like it." LWR03

Both childminders, inhabiting social housing, agreed:

"I love working at home... it means I can be there for my children. It makes it easy to be around my own kids... I don't have to worry where they are after school." LW47

"I enjoy working at home and being on my own. I have my own routine... every minute of every hour." LW48

As did the plumber:

"I like it, it suits us." LWR08

And the baker:

"It works very well, it's so near and yet so far" LWR12

The needle-worker said:

"I can't stand regime. I get bored very easily, I constantly change the pattern of my day and what I am making; every piece is different. I absolutely love it..." LWR16

And the florist agreed:

"I'm doing a job that I love... I'm living my dream." LWR17

The curtain-maker simply said:

"I like working at home." LWS05

People found it a relaxed way to work. They enjoyed the flexibility and control it gave them over their lives. They liked the convenience and the ability to be able to organise their work around the care of their children or elderly parents. They liked being able to break when they wanted to and rest if necessary. They liked not having to worry about what they looked like, or to bother about getting dressed up. They liked not having to engage in office politics. They liked being able to do their housework though the day, to do a bit of gardening to take a break, or to sit in their garden at lunchtime. They found they could be more creative because their surroundings were so familiar. Home-based work seemed to make people content, maybe even happy.

This research found the practice of home-based work to be as varied as the workforce. In general the participants had chosen home-based work as it allowed them more flexibility, and therefore more control, in their lives. The majority used some form of ICT in their work, most enjoyed not having to travel to work, and most found there was some form of financial benefit to working from home. The practice offered people with dependants the means to interweave their caring responsibilities and their paid work. It also enabled people for whom there might be problems in the traditional workplace, such as the sick, disabled or elderly, to stay economically active. And it provided some participants who

The workhome... a new building type?

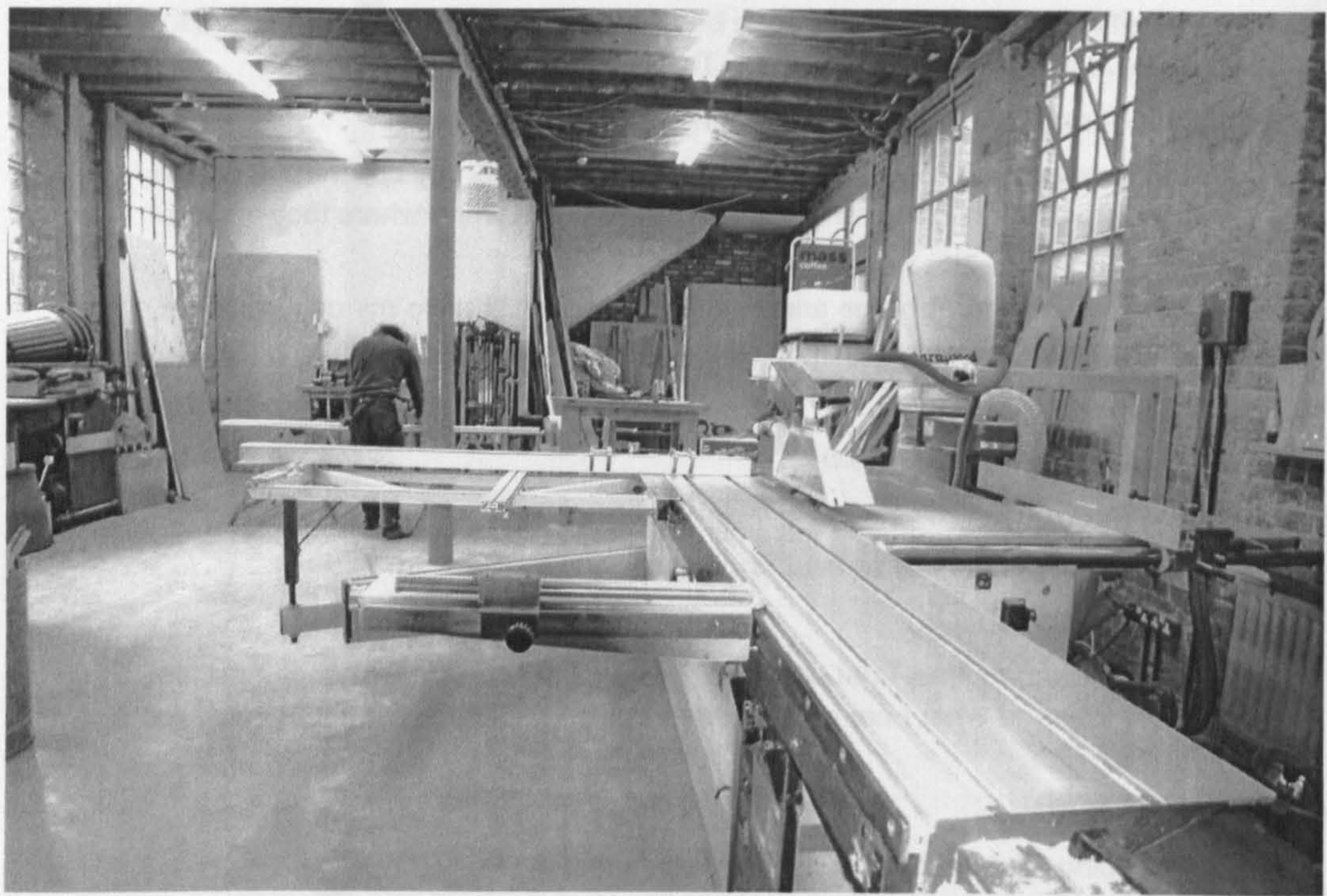


Figure 96: Furniture maker's ground floor workshop (LW09)



Figure 97: Furniture maker's first floor living space (LW09)

lacked confidence about their appearance or work personae, notably a mixed race young female illustrator and a heavily pregnant graphic designer, to work anonymously via the Internet. The participants were found to inhabit the spaces they had available to them in a variety of ways. Some did not differentiate, spatially or functionally, between their work and the rest of their life. Others kept the two areas both spatially and functionally completely separate. There was a great variety in the participants' working day, from gentle part-time work to oppressive over-work. A number of social issues were raised, from social isolation and distraction to overwork and lack of exercise. Concern was expressed about how they were perceived by the outside world. A few participants in the informal sector were found to be working without proper employment protection. The overwhelming majority said they enjoyed home-based work and said the advantages outweighed the disadvantages. The contrasting lifestyles and approaches to home-based work present a range of spatial and environmental requirements considerably more complex and varied than are met by most contemporary purpose-built workhomes. The next part of the study investigates the buildings and spaces the participants inhabit.

The contemporary workhome

Seventy-five buildings, or parts of buildings, were studied (see Appendix 8 for plans)¹⁴⁴. One of the factors that led to this relatively large sample was the range of different building types that was found to be in use as workhomes in England. Appendix 9 shows the sample to include 60 different categories of workhome, organised by age, function and form. The largest number of examples in any one category was six (in 'nineteenth-century three-storey mid-terrace houses'), but even there, the range of types of both household and home-based work threw up a number of different ways of inhabiting similar spaces. The dwellings included detached, semi-detached and terraced houses, and purpose-built flats, from the seventeenth to the twenty-first century. Just under a third had been adapted for the dual-use. Nineteenth and twentieth-century industrial buildings included both those occupied in their entirety and those broken down into smaller units. All were adapted to the hybrid use to some extent. Eighteenth and nineteenth-century purpose-built workhomes included shops and pubs, a funeral parlour and a school caretaker's house. Twentieth and twenty-first-century purpose-built workhomes included a shop, a rectory, a residential care-home, studio-houses, live/work units, and work/live units. Only 13 were contemporary architect-designed new-build projects, while a further five were architect-designed conversions to nineteenth-century dwellings or industrial buildings.

¹⁴⁴ One couple involved in different occupations and inhabiting the same workhome in different ways were both interviewed. Three participants inhabited different industrial units in the same complex. Two participants were interviewed in three of the live/work developments, but in each case the units were both differently spatially configured and differently inhabited.

The workhome... a new building type?



Figure 98: Inside one of the market gardener's glasshouses



Figure 99: Market gardener's house, garden and glasshouses (LRWR05)

Chapter Four: The 'workhome' in the twenty-first century

Concentrating on the 'ordinary' buildings that exist all around us in the built environment was a deliberate policy. Although it was tempting to focus on the elegant spaces and forms of architect-designed purpose-built workhomes, such buildings make up only a small percentage of overall workhomes in England and their use is usually restricted to a particular socioeconomic group. One of the underlying aims of this thesis, to demonstrate the widespread nature of home-based work and the workhome, would have been undermined if too great an emphasis had been placed on such buildings. Most of the workhomes selected were therefore drawn from the ordinary buildings that make up the contemporary English city, suburb and village. An argument for a more thorough investigation of cutting-edge design in this field would be that it might reveal new solutions to the design issues raised by combining dwelling and workplace in a single building or curtilage. The contemporary projects that have been included did not generally achieve this. On the whole they were either based on historical models (knowingly or unknowingly) or, in entering new territory without fully understanding the underlying design issues, they created spaces that have proved difficult to inhabit as workhomes. This is, however, a worthwhile area for further research.

The participants spoke at length about the buildings they inhabited, and the extent to which their spatial and environmental needs as home-based workers were met. Many had given this considerable thought and some had adapted their spaces to address these issues. Participants also raised issues about the governance of the building type and the impact of their home-based work on their immediate neighbourhoods.

The interviews threw up many spatial issues. These provide important information for the future development of this building type. Most participants were involved in compromises with the ordinary spaces of everyday life. Their observations were often thoughtful and perceptive.

The sample included workhomes of varying sizes. There was not necessarily a direct relationship between the objective amount of space available and the perception of the home-based worker. Less than a sixth of participants considered they had enough space to enable them to carry out their home-based work effectively. The furniture-maker had converted a nineteenth-century industrial building to accommodate his extensive ground-floor workshop, placing two floors of open-plan living accommodation above [fig 96, 97]

"We have lots of space... it is perfect..." LW09

The market-gardener-woman commented:

"It's just fine as it is. There is more than enough space for the two of us."

The workhome... a new building type?

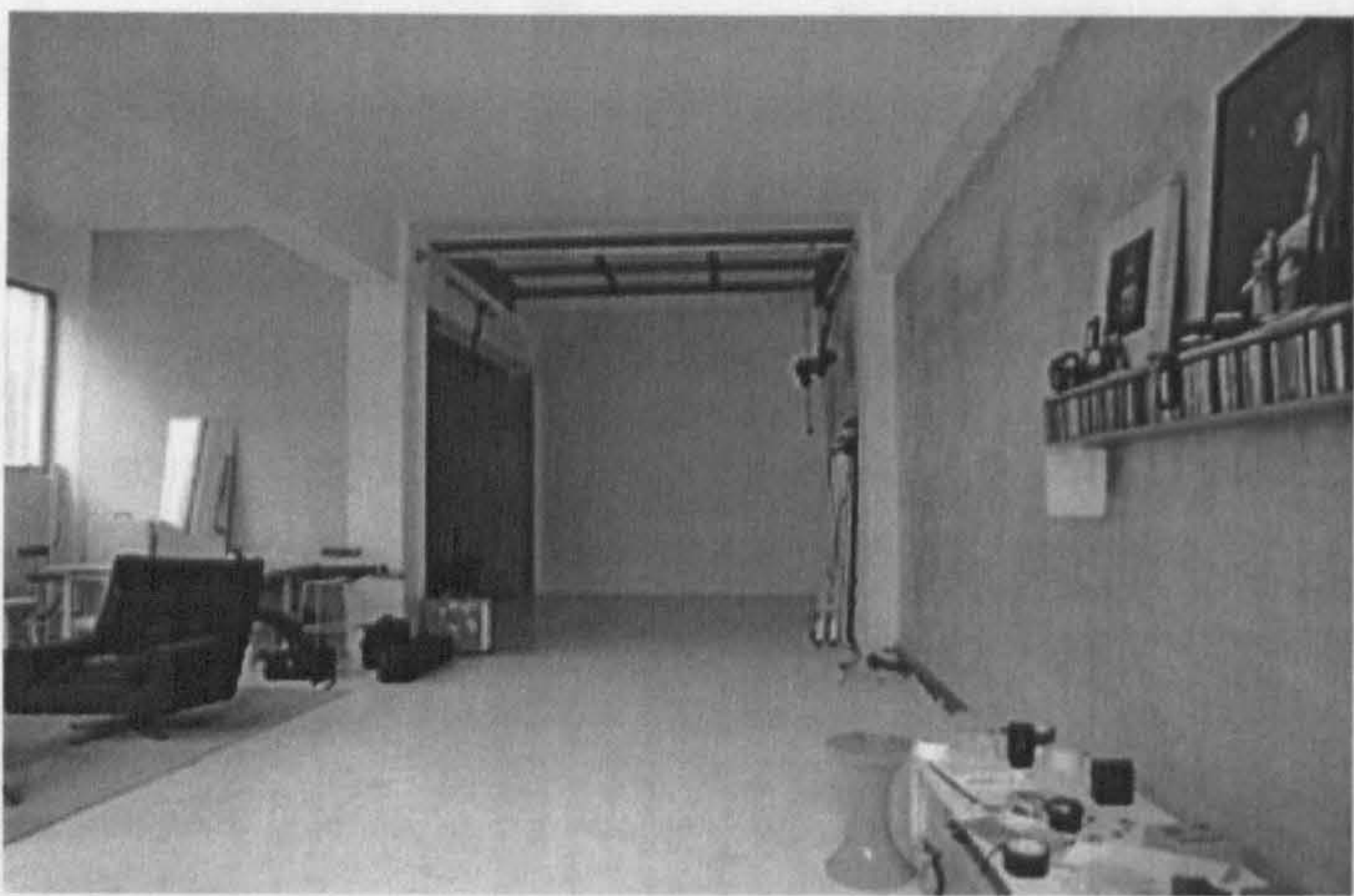


Figure 100: Photographer's studio (LW35)

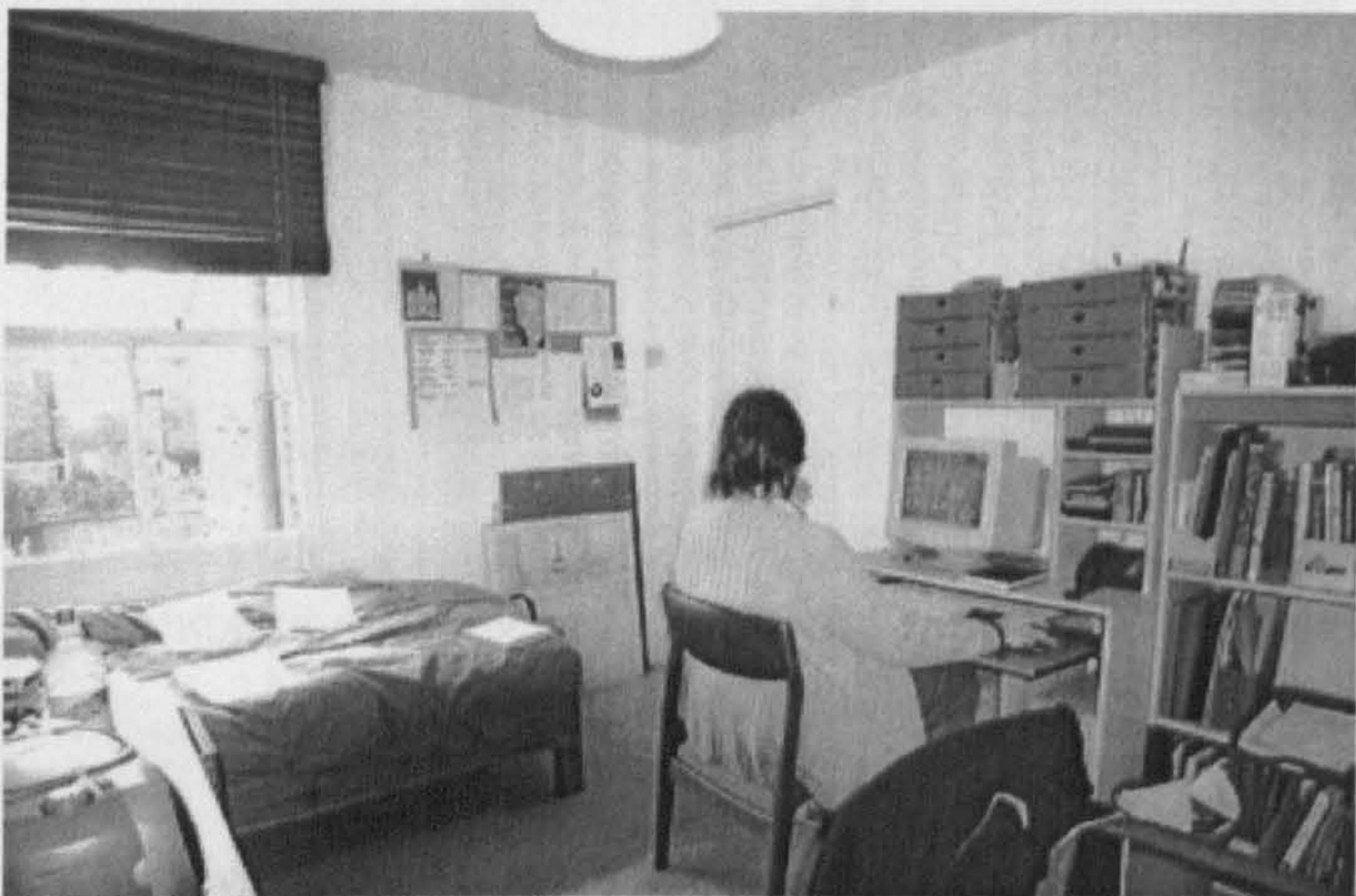


Figure 101: Social policy researcher's office in a spare bedroom (LW01)



Figure 102: Costume-maker's studio (LW10)

LWR05 [fig 98, 99].

One of the photographers, inhabiting 200 sq m of work/live unit, appreciated the space he worked in:

"The studio is very good... the shooting space is 3m cubed with a top curve... the infinity curve gives me a virtual height of 5-6m. The dancers can jump and you will not see a ceiling break... it makes the dancers look as if they are in a huge space and that they have very long legs." LW35 [fig 100].

The majority said they needed more space. The social policy researcher, inhabiting a spare bedroom in a terraced house, spreading her papers on the bed, commented:

"I undoubtedly need more space... ideally another room and ideally a room of my own, or at least without the bed." LW01 [fig 101].

The music teacher, inhabiting half a terraced house, wanted a larger music-room, so she could see her flute-playing pupil while she was accompanying them on the piano (LW02). One of the photographers whose living room doubled up as a studio in her live/work unit (involving moving all the furniture when she did a shoot, generally once or twice a week), wanted a separate studio (LW03), as did one of the illustrators (LW13). The costume-maker, inhabiting a purpose-designed live/work unit, said:

"I could do with more space... [when we] get six people [the two partners plus four employees] in there [her studio] it gets a bit cramped... we could also do with a larger bedroom and another room upstairs." LW10 [fig 102].

The building surveyor, when busy, employed both an assistant and a secretary:

"There is only one size Portakabin. I measured up the garden and had to chop down part of the tree to get it in... we had inches to spare. It was winched over the wall four years ago. It is very difficult with three people in the office... it is impossibly small... one person always has to be out on site somewhere." LW36 [fig 103].

The caterer/preserves maker said:

"We are now even more crammed with space as I still have all the catering stuff, as well as all the stuff for the preserves." LWR07

In some cases the participants had made spatial compromises. Both childminders, inhabiting social housing, had sacrificed living space to accommodate their work. One had converted her living room into a childminding space:

"I have enough space, but I don't have a sitting room, as I use my sitting room as a childminding space. I used to have my chairs here, but when I decided I wanted to look after children for the rest of my working life, I threw away the chairs. I put them in the bin. So then I could have space to do the childminding. I don't mind doing that. When you have the chairs people come and sit on them, but they're not helping you. With the children you are happier." LW48

The workhome... a new building type?

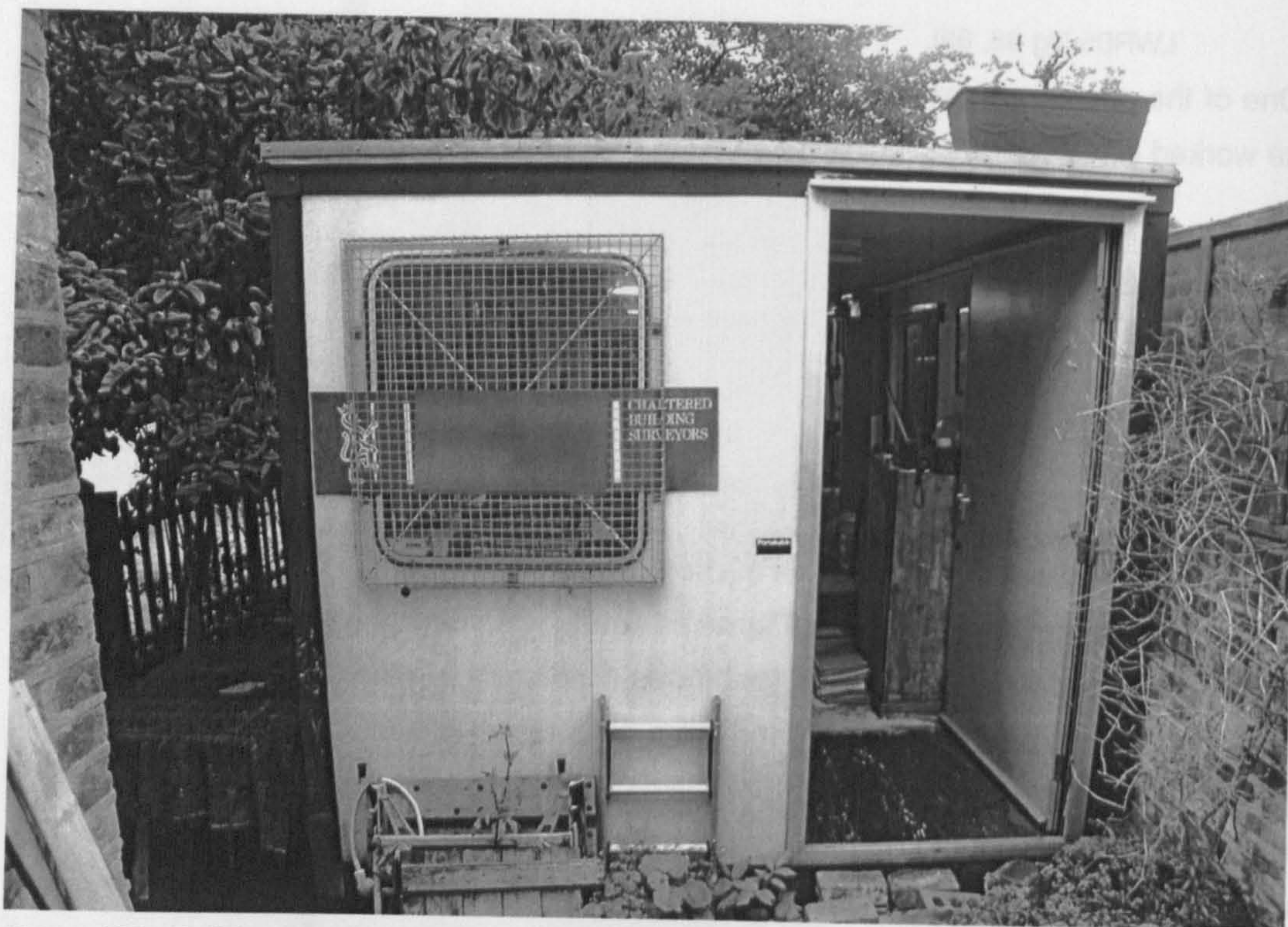


Figure 103: Building surveyor's Portakabin (LW36)

Chapter Four: The 'workhome' in the twenty-first century

The other had converted a bedroom into a playroom for the use of the children she minded. As a consequence she shared a bedroom with her youngest daughter. She said:

"I would like the place to be bigger, but I'm managing it OK. I have no complaints. If I had more room, I would get more kids and employ people to work for me. I would like to turn the whole house over to the job." LW47

The baker had made a similar compromise. The office was in the dining room of their end-of-terrace house, across a yard from the detached bakery building, which meant that the large extended family had no table to eat at.

"We could do with a dining room, where you can dish your dinner up. I like having the office space in the house, though." LWR12

Some participants' work had particular spatial requirements. Several of the painters needed a tall well-lit space to work in; one of the artists commented:

"The space is a bit narrow... I use the end wall a lot, so I can stand back and look at [what I am doing]. The sidewalls are OK for looking at the work, but I can't work on them. I [need to] stand back as far as I can. The studio would be better wider, so I could work on all the walls. I have just bought a place in Spain where the studio is twice the size of this one. The ceilings are three and a half metres high too." LW41

While many participants raised issues regarding the size of the space they inhabited, the quality of space was also important. Many participants spoke positively about the quality of the space they inhabited. The social policy researcher commented:

"I absolutely love working at home. It is a calm and quiet space... You don't have to deal with... the dead atmosphere of the office, which really got me down. It had a peculiarly morgue-like atmosphere which your home doesn't have." LW01

The piano teacher added:

"It feels very relaxed, friendly and informal... it feels much more formal at school, and therefore I teach differently... there is a lesson to be learned here in terms of the design of schools." LW02

The classical musician agreed and added:

"Chamber music was always meant to be performed in the home; it is conducive to being played in domestic-scale spaces." LWR04 [fig 104].

One of the illustrators, a social housing tenant, found he was more creative when working in his home environment:

"I like working at home because I am comfortable, it's familiar; it makes it less like work, which can be good and bad. The good side is you can... get into a headspace where you are comfortable enough to be open and creative." LW12 [fig 143]

The workhome... a new building type?



Figure 104: Classical musician's living room (LWR04)

Figure 105: Graphic designer's attic studio (LW04)



The graphic designers, who had moved from working in a back bedroom to a purpose-built attic studio, acknowledged the impact the quality of the home-based environment had on their quality of life:

"From the human point of view, it is very calm up here, up in the clouds. We were so fed up with working in a confined, cramped space and really enjoy the fact that, because we spend so much time working, doing this [building the purpose-built attic studio] has upped the quality of our working life." LW04 [fig 105].

The curator, working on her dining room table, concurred:

"I like lots of light and clean space... I would rather have that, in the dining room, than hide away in a little cubby-hole that was my designated space. The quality of space is more important." LW21

Many participants spoke about their ideal set-up. In some cases this involved creating a separate space for their work function. The clothing sales-person, who kept her stock in bin-bags in her airing cupboard, so it was inaccessible when the bathroom was in use, commented:

"What would be ideal would be a shed at the bottom of the garden, with windows and blinds and tables, so I could leave my stock out, and have somewhere [like a till] to keep my money permanently." LW22

The website designer's living room, in his first floor flat, was dominated by the bank of computers and associated equipment.

"I want to have my living room as an attractive space so I can have people round and not have the huge work thing. I'm happy living in the same space but would like three rooms: bedroom, living room, and workroom. It could allow me to be in the living space and not have the work, to close the door on the work. It would look more professional... which would be better for new client meetings." LW25

The translator had previously inhabited a set-up he considered ideal:

"I used to have a shed at the bottom of the garden, it was an 1860 double-fronted terraced house... I had an enormous office with central heating and a phone line, overlooking the pond. Completely separate, it was ideal. We got wet going out to the office, but you got used to that. It was really nice. It was set up by an author who wrote in the garden." LW39

The IT specialist, working in his spare bedroom, said:

"It would be better if I could have this room as a dedicated study. What would be ideal would be a purpose-built study." LWR10 [fig 106].

For the wife of the school caretaker, the ideal arrangement would have been a house adjacent to, but separate from, the school, with separate access onto a side street, so they could have constant use of their car. Their school entrance was onto a main high street where parking was impossible. They had a parking space in the playground when the school was closed, but had to park at a distance during school hours (LW15).

The workhome... a new building type?



Figure 106: IT specialist's office in a spare bedroom (LWR10)

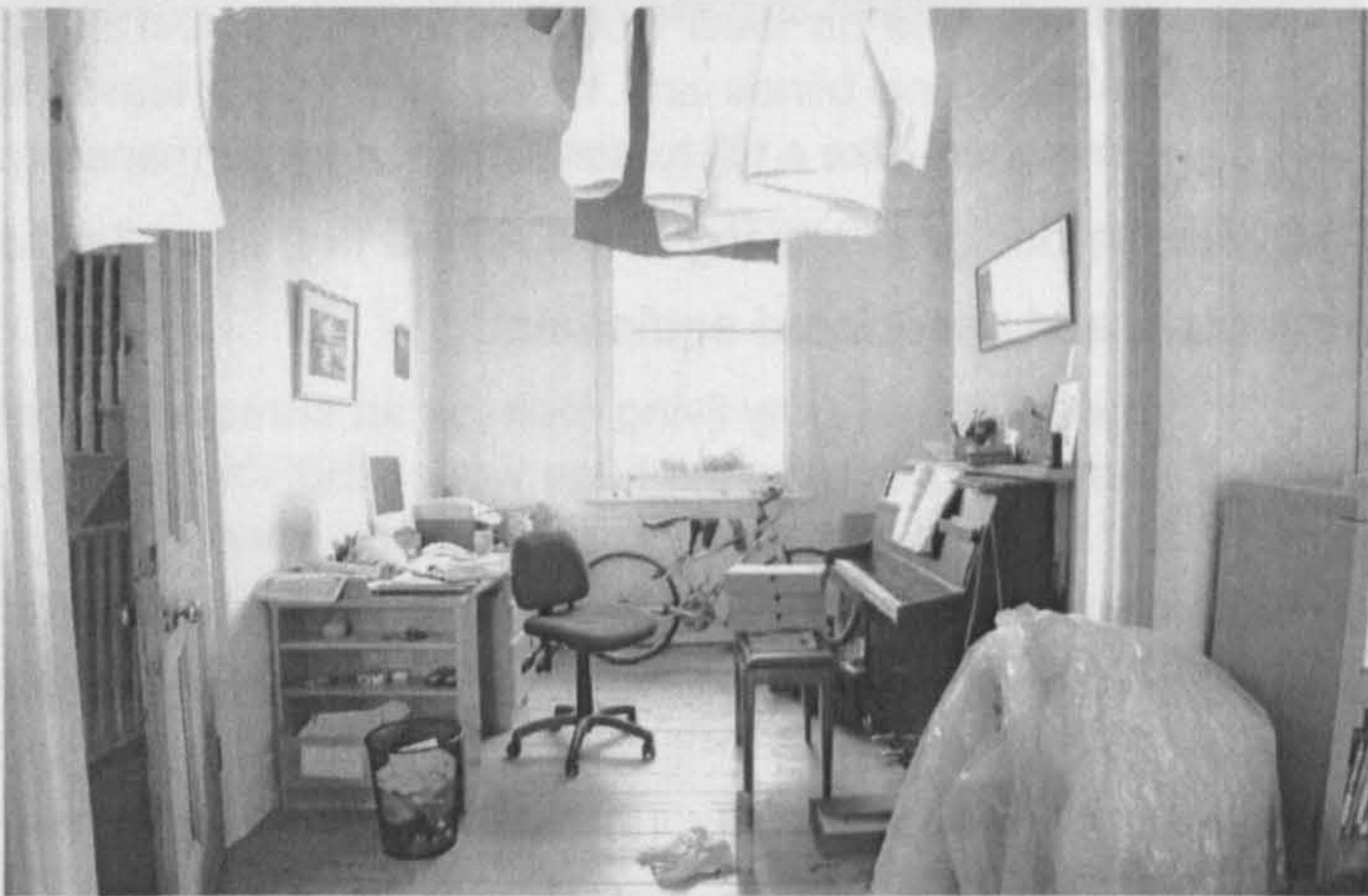


Figure 107: Writer/editor's work room (LW20)



Figure 108: Architect's studio space (LW16)

Chapter Four: The 'workhome' in the twenty-first century

In other cases participants imagined a whole building in which they could both live and work. The writer/editor, working in a rear first floor room in her terraced house surrounded by drying laundry and bicycles [fig 107], dreamed of her ideal space:

"What would be ideal would be to have a lot of glass and a roof office type thing, with an open bit you could sit out on. I would have a little library set up with all the books I need." LW20

Similarly, one of the architects, working in the rear extension of a small and somewhat dilapidated terraced house [fig 108], remarked:

"Ideally I would like a ground floor studio, with a first floor entertaining floor, and then to live above that... but it comes down to space and money."
LW16

Many participants commented on improvements that could be made to their workhome. The BT manager, disturbed by his daughter moving about on laminate flooring above him, and by his wife and son interrupting him when he was working, commented:

"What would be ideal would be [to have] an office upstairs, it would give [me] more isolation." LW18

A painter, living and working collectively, and running a gallery, with six other artists said:

"We need higher walls in the studios, still allowing natural light to enter... the bedrooms could... have mezzanines. There's lots of vertical room that we are not using. It would be nice to have a dining area too." LW42

The participants' comments emphasised importance of the quality of space that they inhabited. The home-based workforce inhabits the same building or spaces day and night. As a result both the benefits of well-designed and appropriate spaces, and the disbenefits of badly designed or inappropriate spaces, are magnified. Inhabiting buildings that meet their needs effectively (at a number of levels) would make a big difference to their lives.

Most participants spoke at length about the spatial relationship between the work and domestic functions in their workhome, and their attitude to it. Some participants did not differentiate between their 'work' and the rest of their 'life', and as a consequence made no spatial separation between the two functions. A photographer, successful and established, inhabiting 200 sq m of work/live unit arranged on three floors, with a ground-floor studio, living space on the first floor and a darkroom, office and spare bedroom in the basement [fig 109, 110], challenged the conventional spatial separation between 'work' and 'life', and even the underlying concept of the 'live/work' unit:

"The whole live/work thing seems bonkers to me, conceptually flawed..."

The workhome... a new building type?

Figure 109: Photographer's ground floor studio (LW35)

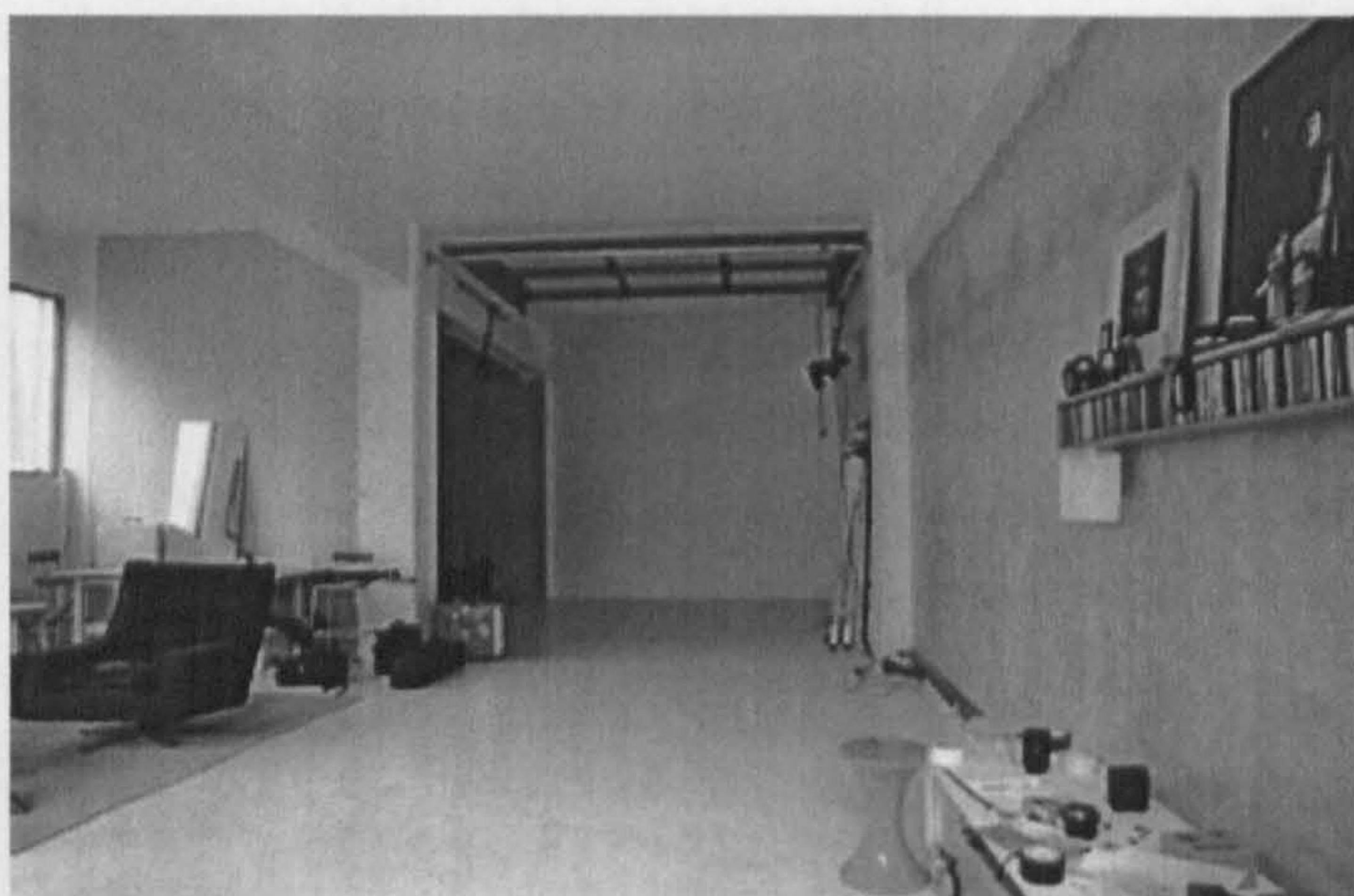


Figure 110 Photographer's first floor living space (LW35)

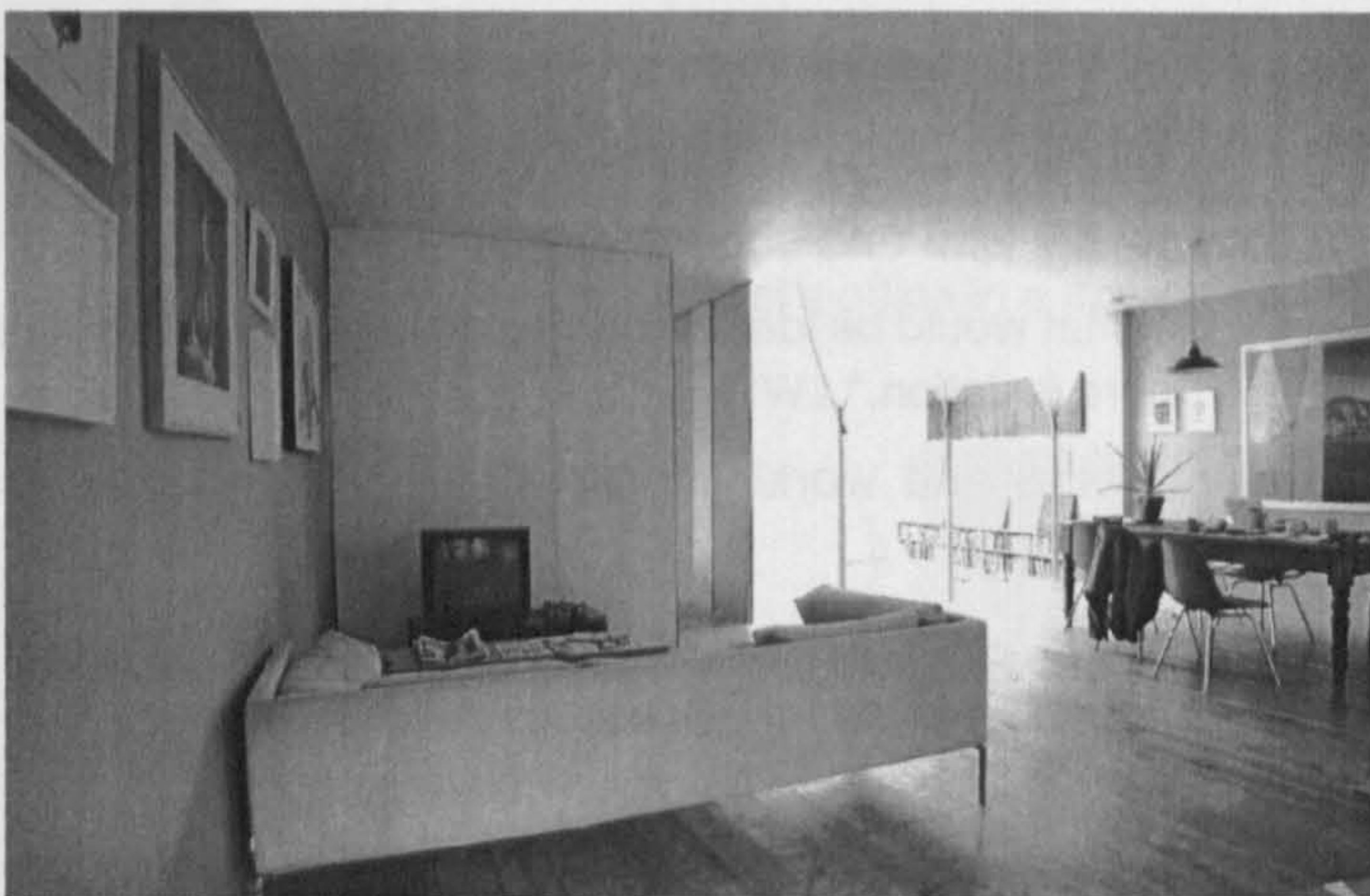


Figure 111: Artist's studio/living space (LW31)



life and work are the same thing... of course if you work in a factory you are going to feel very differently, but if you are the kind of person who lives in a live/work space then you are precisely the person it doesn't mean anything to." LW35

An artist lived communally with a friend and collaborator, the domestic aspect of the open-plan industrial space being restricted to a small kitchenette and two small 'bed places' [fig 111], their...

"...private lives being kept elsewhere." (LW31).

Although missing some of the comforts of a more conventional domestic environment, such as a bath and a sofa, she made it clear that the open-plan environment was ideal, but merely yearned for a larger, taller space. An architect and an illustrator each lived with a partner whose work was home-based for part of the time. They were both absorbed in their work to the extent that they worked in all the spaces of their workhomes, whether or not they were formally conceived as workspaces. They had both developed fluid lifestyles that enabled an apparently effortless integration of their work into the other aspects of their lives, and vice-versa (LW26, LW38).

An architect, inhabiting a third-floor open-plan live/work unit that was organised as an office with a small, private sleeping area screened from the main space by a large bookcase and a folding clothes storage unit [fig 112], said:

"Most people can't believe someone would live in a place like this. There are no boundaries, except no-one goes into my sleeping space... it would be nice to have a separate space for sleeping, so long as it didn't mess up the [overall] space. I'm not bothered about employees coming into my domestic sphere... I like the lack of compartmentalisation. Maybe I should be cleaner and tidier because of the public coming into the space. I am medium untidy... I get my employees to wash-up dishes from the night before. I would like a separate painting studio, and I would like the domestic area to be more domestic, so visitors feel more comfortable. I paint as well... so it's my studio as well; I push the sofa back to make the central space larger. Clients... if I want to impress them, I try to make it more business-like, I make sure I haven't left anything domestic lying around, and move the table into a more central position, and get the office chairs around it; it makes it a bit more formal. Often clients don't know I live here." LW45

The power differential between this participant and his employees is reminiscent of that of other home-based employers mentioned in this research, both historical and contemporary. In general, home-based work appears to offer a better quality of life as a result of increased levels of control. In cases like this, where employees are brought into the home-based work environment, this may, in part, be at their expense. The costume designer/maker, who had been described by a friend as "...virtually sleeping under her bench..."¹⁴⁵, did not distinguish between the domestic and work functions either. Living

The workhome... a new building type?

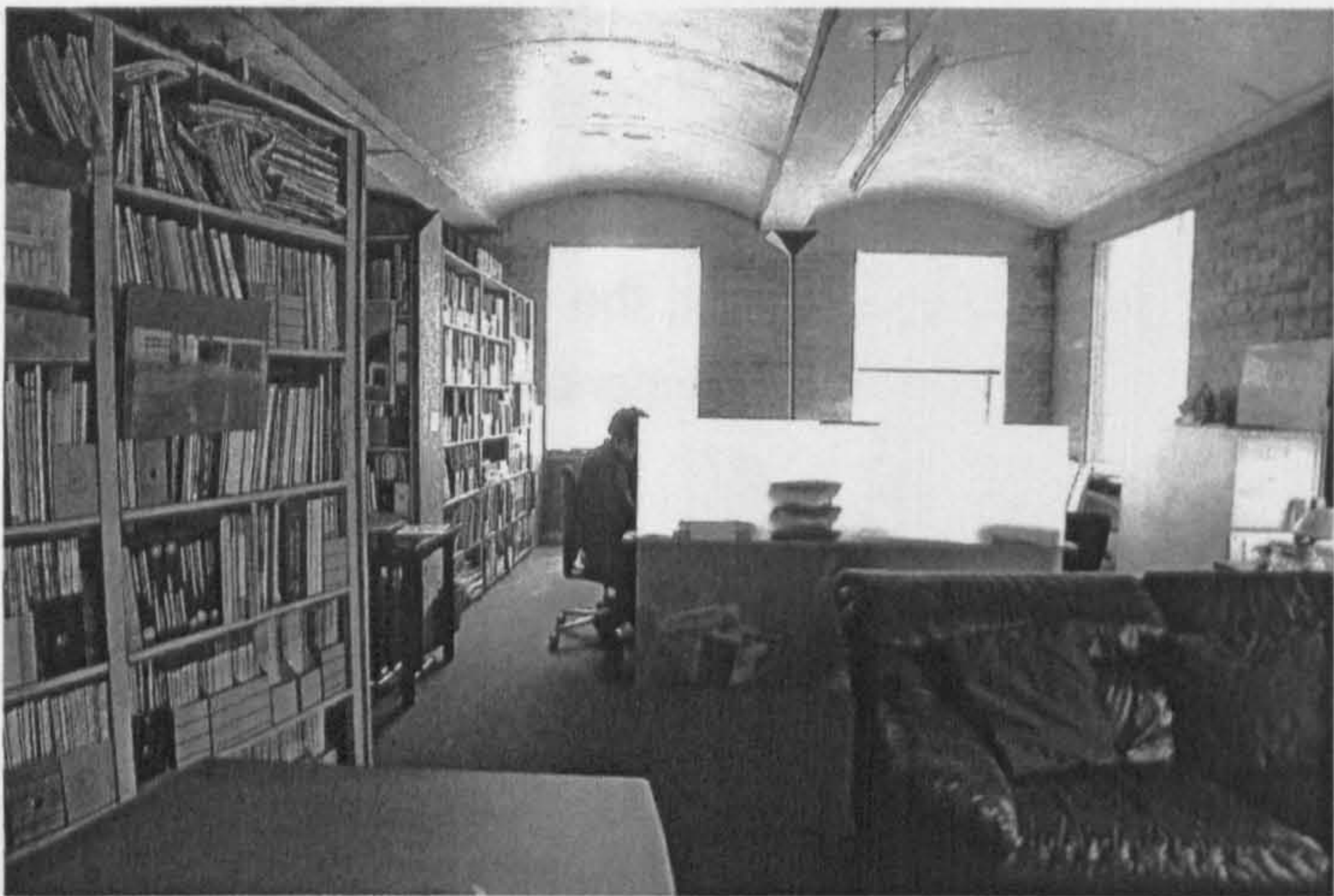


Figure 112: Architect's studio/living space (LW45)



Figure 113: The 'work' end of the costume designer/maker's space (LW07)

Figure 114: The 'living' end of the costume designer/maker's space (LW07)



Figure 115: The costume designer/maker's front door (LW07)

alone, with no caring responsibilities ("...not even a pot plant"), she commented:

"I love what I do, it is part of my personality; I don't make the separation between 'work' and 'life'". LW07

She had laid the space out to give approximately half over to work, and half to domestic use. Each half had a different character, she used her space flexibly, but the function spilled over into both spaces. The 'work' end was laid out with cutting table, sewing machines, iron, patterns, fabric storage [fig 113] and the 'domestic' end was characterised by two large pink fluffy sofas and a galley kitchen [fig 114]. She said that people did not necessarily know she lived there, which is why the bed was out of view, discreetly screened by a white curtain. The dual-use spaces of her live/work unit enabled her to work extended hours and still keep the domestic aspects of her life together.

"...you can get your washing done, you can cook and carry on..." LW07

Other participants also enjoyed a lack of separation between the dwelling and workplace aspects of their workhome. The caterer/preserves-maker cooked in the domestic kitchen she had extended over the years. She did her paperwork in the office she had made in her front hall, and used her dining room table for storing finished cakes and paperwork. She said her sofa was her thinking space. She had also made a spatial connection from the kitchen, through a hatch, to her husband's study (where he watched television and listened to music in the evenings), to keep her socially connected when she was working at night (LWR07).

For some participants, a partial lack of separation was inherent to the job. The funeral director's flat had no front door off the street, which meant that he always had to 'go home' through the funeral parlour [fig 60] (LW14). The gallery owner's home consisted of an eighteenth-century terraced cottage, and the workplace was an adjacent gallery and art-framing workshop [fig 116]:

"The shop is unattended, but there is a bit of technology [a bell rings in their kitchen, but is inaudible in the shop] that lets us know there is someone in the shop. We trust people, we wouldn't do it otherwise... otherwise you would have to sit in the shop all afternoon and might only have one customer... how are you going to do that? It frees everyone up to do things." LWR06

This followed the pattern of the Victorian draper's shop. The school caretaker's house was embedded in the building of a Victorian Board School [fig 63]. His home was accessed via the school playground, where his children played when the school was closed, the noises of the school permeating his home (LW15). Similarly, the manager of the National Trust historic house enjoyed an apartment with large, elegantly proportioned rooms on the second floor of the seventeenth-century house she looked after. However she also

¹⁴⁵ Conversation with friend

The workhome... a new building type?



Figure 116: The picture-framer/ gallery owner had an internal door between the shop and the house, and a bell that sounded in the house when a customer came into the shop (LWR06)

Figure 117: The rector's study was a single storey addition to the detached two storey rectory (LWR19)



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had to tolerate her colleagues walking past her bedroom when she was still in bed on a Sunday morning. She was clear that any such disadvantages were part of the job:

"If you don't have a positive attitude to it, you don't live in..." LW30

The rector (LW19) lived in a modern rectory that incorporated a partial separation between the 'live' and 'work' aspects:

...[rectories] are always built to a set design, the rector's study is always on the ground floor, always accessible to the front door without the rest of the house being involved... there is a boundary in effect between the public and the private areas of the rectory." LW17

His study was a small single-story addition to a two storey 'executive' detached house [fig 117], immediately adjacent to the front door. A lockable door separated the study from the rest of the house, with a panic button, and the front door was glazed so visitors to the house could be seen from inside. He used his living room for meetings, but his study was his primary workspace, apart from his church, a two-minute walk away. The managing director of a manufacturing company lived and worked in a 1950s purpose-built workhome in the form of a house with an integral shop. This had been converted into a family house before he had moved into it, but he now used the original shop-space as his office. Although this actually amounted to just a large room in the house, he imposed clear boundaries to maintain a high degree of functional differentiation. There were no domestic items on view in his office, and he kept strictly separate from the rest of his household during working hours:

"I have a wonderful large room, what was the shop, as my workspace... it's ideal... The kids have to knock on the door before 5pm if they want to come in. After five it's open house." LWR15

The baker also enjoyed a partial separation between workspace and domestic space. All the baking and sale of baked goods happened in a separate building across the yard from the house, but the paperwork was done in an office space in the house.

"It works very well, it's so near and yet so far... The office is the only part of the house that is used for work, and no part of the bakery is used domestically. My husband enjoys being in the office... it's a bit like his shed, he puts the CDs on... he does do so much work, but not as much as he makes out. If he did his paperwork in the bakery he would be lonely. I like having the office space in the house. I can chat to my husband while he's doing his invoices, have a cup of tea... otherwise he would feel banished." LWR12

The florist had installed a CCTV link between her spatially separate and functionally differentiated ground floor shop and her TV upstairs in her living room, so she could keep an eye on what was happening in the shop while she was upstairs doing her paperwork, or having a meal (LWR17). The curtain-maker, while doing most of her work in a separate space, her converted garage [fig 118], also used other areas of her house for work

The workhome... a new building type?



Figure 118, 119:
The curtain-maker's garage
workroom and her
'office' (LWS05)



Figure 120:
Architect's self-
designed studio
house with second
floor studio space
(LW43)

purposes. Pointing at a typewriter on her kitchen worktop [fig 119], she said: "This is my office." (LWS05). Although the furniture-maker's workshop was physically separate, [fig 96] his living spaces were also often used for work purposes, for meetings with clients, for design work or for paperwork [fig 97]. His home was also, to some extent, used as a show-room for the furniture they made (LW09).

Some participants were unhappy about the lack of spatial separation between the domestic and workplace aspects of their workhome. An architect, inhabiting a self-designed studio-house with the studio on the second floor above his bedroom and bathroom [fig 120], was clear that the set-up did not work well for him:

"It's an uncomfortable overlapping of things... We had an employee for a few months, and it wasn't very successful. My wife didn't like having him there... partly she just didn't like having an alien person in the place; the employee was an outsider. The living space is not separable from the front door... she would worry about him poking about. There were issues of security. I felt uncomfortable when I went out and left him in the house." LW43

The start-up businessman, in the process of starting a corporate finance enterprise, was used to a conventional office space but inhabited an open-plan affordable live/work unit with a mezzanine sleeping space [fig 92, 93]. He was concerned about how the lack of spatial separation would work if he had a female employee:

"I strongly feel the working area should be a separate physical area, so the toilets are separate, and the sleeping area is separate, it is fraught with potential danger in this litigious age... There are some creeps around, frankly, you don't know who the hell people are any more. Employing people is a real problem in your home. I don't know what the answer is... don't know how I will feel leaving them in my home when I go away... I'm not a dishonourable chap, but if you employ a lady, she needs her own space. Architecturally it is something that needs to be considered." LW50

A lack of spatial separation also caused the needlewoman, working in an open-plan spare bedroom in her nineteenth-century terraced cottage, a problem:

"I desperately need a separate space for sewing... the dust goes everywhere... which doesn't work with the computer... the bed is used rarely, but the cat sleeps up there. As it is an open-plan room, with no door to the stairs, I can't keep the cat out, so I get cat hairs on all my materials and products." LWR16

One of the graphic designers also bemoaned the lack of spatial separation:

"You have to walk through the house to get up to the attic studio. We keep all the doors in the house shut during the day, and don't let the kids put junk on their doors... it doesn't look very professional. We keep the house clean and tidy. Bringing a new client, a man, upstairs past your bedroom... doesn't feel right, but then it's OK when we enter the workspace. It's too intimate walking through the house. I get very anxious about keeping all the bedroom doors shut... protecting our privacy. A client comes in about once a fortnight... we

The workhome... a new building type?

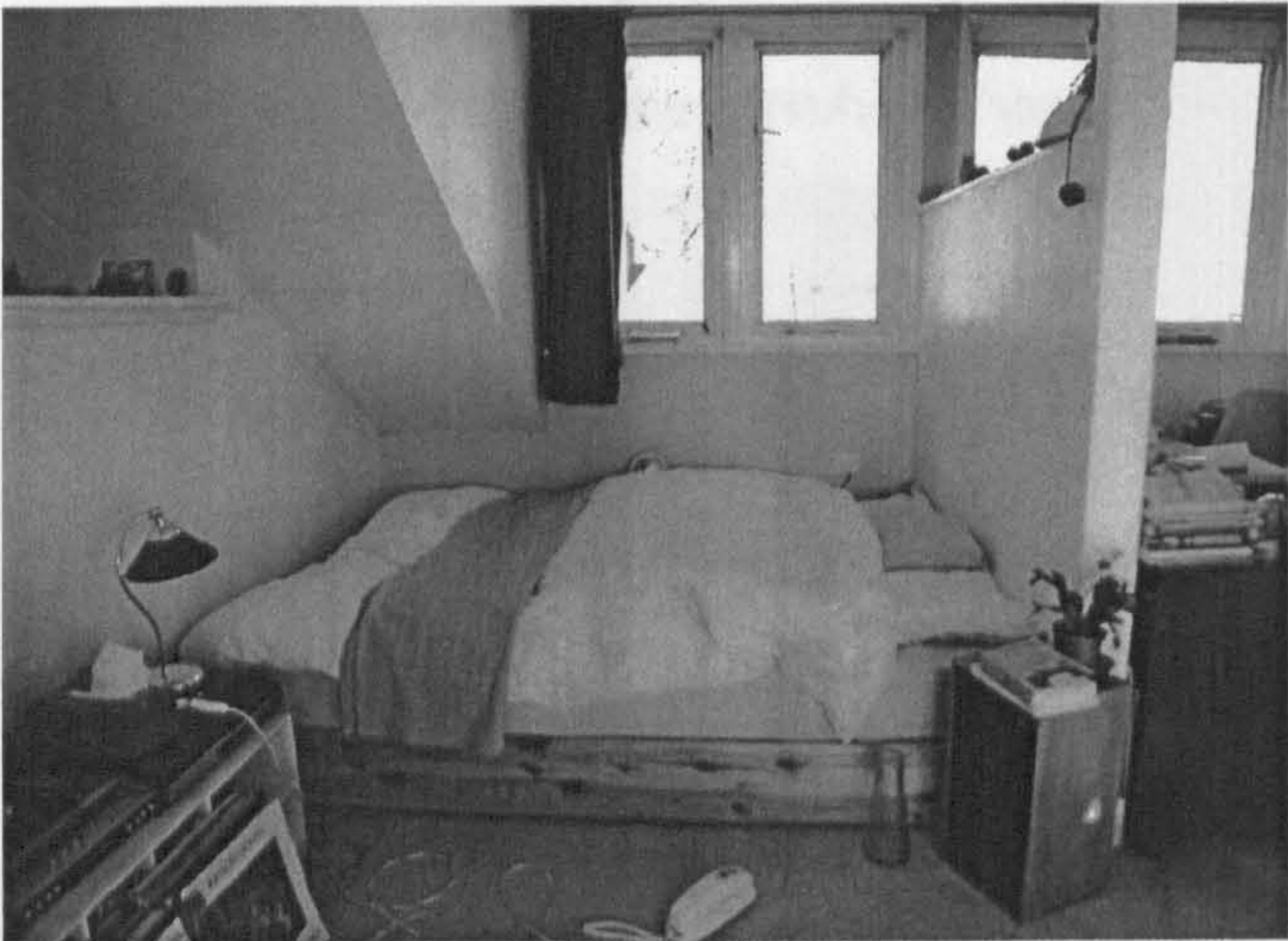


Figure 121: Writer/ psychotherapist's sleeping area, on the other side of the partition

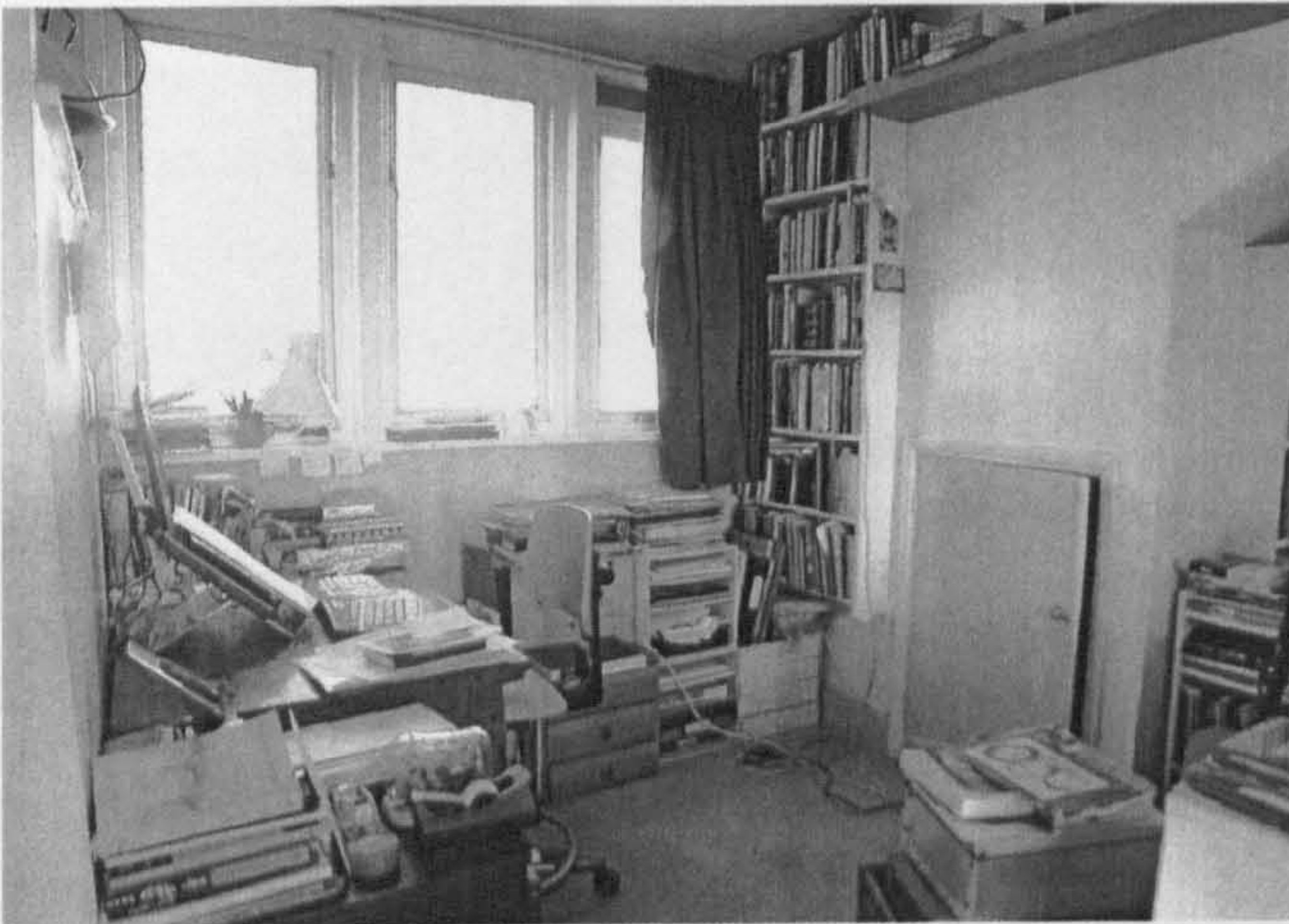


Figure 123: Curtain indication a psychotherapy session is taking place in the writer/ psychotherapist's front room



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do a big clear up before they come, make sure the bathroom is clean and that sort of thing. If we have had lots of kids in the house over the weekend, we will have to work hard, to make an effort to make sure it looks presentable.”
LW04

Some participants had developed ways of managing the lack of spatial separation between the domestic and workplace functions that existed in their workhome. The writer/ psychotherapist said:

“...All my spaces double up. My consulting room is also my living room. My kitchen is also my everything room, it's my office, my utility room, my living room, where I write up my client notes, read about health or psychotherapy, do admin. My attic space I write in, and also sleep in... it has a bed area, a writing area and a living area. A shoulder height partition wall [fig 121, 122] means I can't see the bed when I'm writing, or the writing area when I'm in bed. The space is both 'just a bedroom' and 'just an office'. I have a curtain to draw across the front-room door [fig 123] to show when I have a client there, and everyone knows they are not to enter the room when the curtain is drawn. A separate front door [to the consulting room] would make a big difference.... Ideally I would have a basement consulting room with a separate front door, so I didn't have to compromise with the space, it would take the public out of my home.” LW44

The re-birthing breath-work practitioner found that her flat was not conducive to having someone else there when she was working, so her husband had to stay away when she was working:

“He is a film and television producer and is a bit of a workaholic... he always has more work than he can manage to do. He makes meetings in the evenings, and goes for a screening once a week. Basically Tuesday and Wednesday he has to keep away until 8.30 or 9.30pm. But for a workaholic to be given permission to work very late two nights a week is quite good. It means he will do anything not to work at the weekends, which is great. It is a disadvantage for him sometimes, though, knowing that he HAS to stay away.” LW49

Some participants enjoyed the clear spatial separation that existed between the domestic and workplace areas of their workhome. The building surveyor found the solution of working in a Portakabin in the garden of his end-of-terrace house worked well [fig 103] (LW36). A number of the shopkeepers and publicans were able completely to close off the living accommodation above from the working environment below. The fish and chip shop proprietor commented.

“There is no spatial connection between downstairs and upstairs. There used to be, and there might be again, but at the moment it's completely separate... I go out into street to go upstairs... it's good because we feel completely separate when we're upstairs. We don't feel part of the shop, and don't get bothered. The bad point is that I have to go out into the street with the

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Figure 124: Fish and chip shop with no internal spatial connection between the ground floor shop and the flat above (LWR03)

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takings each night, which can be up to £700. I also have to chase upstairs and downstairs... I've got a head like a sieve so I'm always leaving stuff downstairs... it's a pain having to go round to open the door and go upstairs. I have thought about opening the door up, but at the moment I prefer it as it is. The benefit of separation is more important than the inconvenience. Customers never go upstairs, and I never socialise downstairs." LWR03 [fig 124]

The costume-maker inhabiting a live/work unit with a ground floor workspace with two residential floors above, maintained a total separation between her work and her home life as far her employees were concerned:

"I was very surprised to find a girl I have worked with for three years had never been upstairs... it is very private upstairs, and I like it like that. Even if we need a pint of milk, it is me that will go for it..." LW10

The motor-engineer also enjoyed keeping his workplace, a workshop 50 yards across the village square from the house, separate from his home.

"I go backwards and forwards [across the square to the house] maybe half a dozen times, maybe even more every day." LWR22

The hairdresser had started home-based work when her husband left her. ("In those days you didn't leave your child...") She used to work in an upstairs bedroom, washing hair in the bathroom, but could not stand the hair or the smell of the perming chemicals in the house. So she built a 'hair room' with a separate side entrance ("officially a utility room") on the back of her semi-detached house, in the place of a former garage [fig 125, 126]. She said of her customers:

"They come in, hang their coat up, and wait in the hair room until I am ready, if necessary. They never go into any other part of the house apart from the hair room and the WC. That's deliberate; it keeps the rest of the house completely private... They respect my privacy and I want it separate. I have room upstairs, but I definitely prefer having the separate hair room at the back, as people don't have to come through the house. This way you can leave the mess if you want to, when you're tired of an evening; before I always had to clear everything up at the end of the day, no matter how late or tired I was. Hair used to get everywhere, and you couldn't use it as a bedroom anyway. If I've had a really long day and I'm shattered, I can just leave the mess and clear it up the next day, or at the beginning of the week, whatever I feel like doing" LWS04

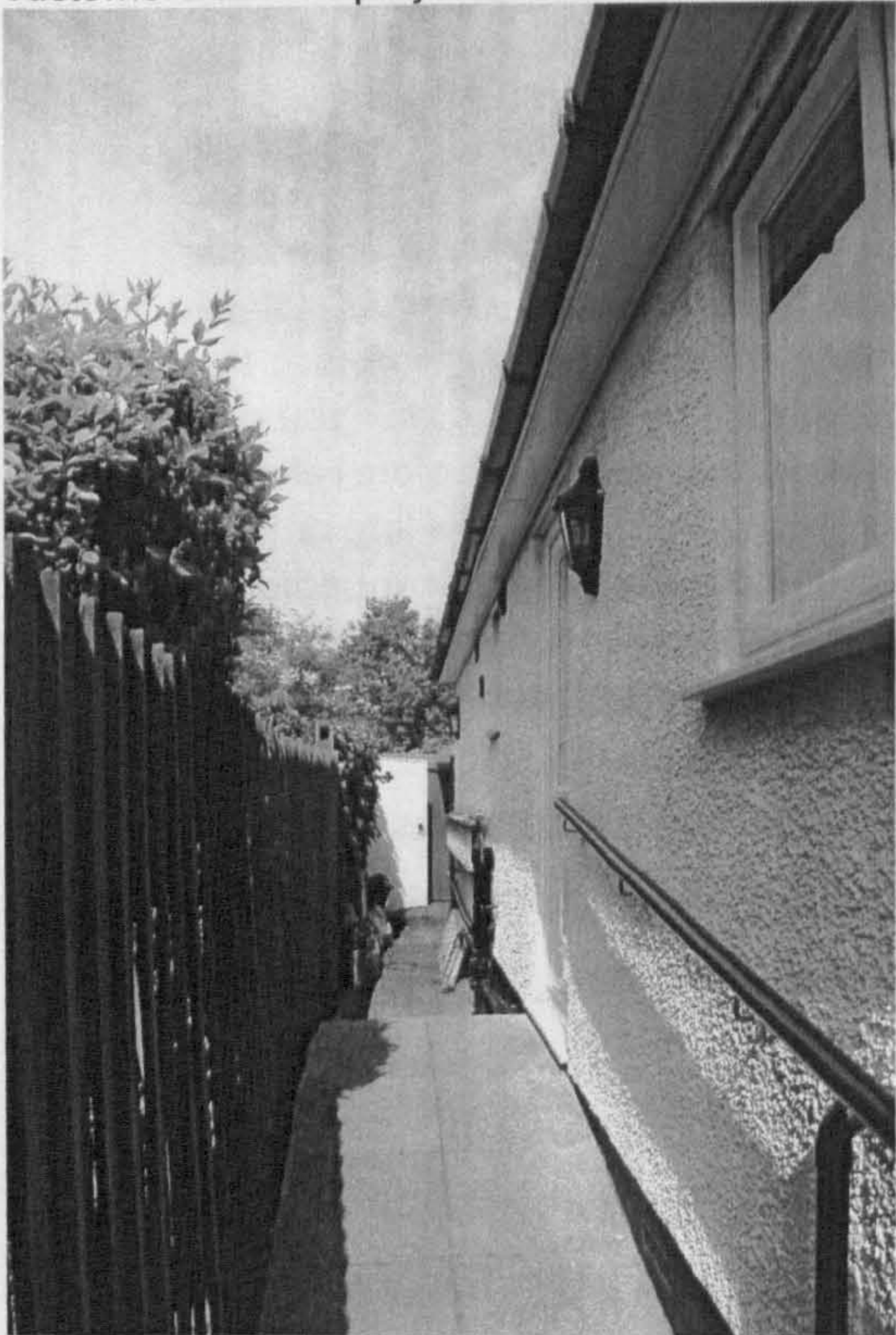
The spatial separation between the workplace and residential areas of her workhome was clearly delineated. Even her employee came in the side entrance [fig 127] and did not go into any other part of the house apart from the hair room, the WC and the adjacent kitchen.

Where their gardens were big enough (and even in some cases where they were not, see fig 103, building surveyor's Portakabin) a number of participants had their workplaces in

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Figure 125, 126, 127: Hairdresser's 'hair room', the interior, from the garden, and the side entrance so customers and employees do not enter the house (LWS04)



a building, sometimes no more than a shed, in the garden [see the frontispiece, showing the soft furnishings designer/ maker's studio/ shed (LWS02)]. One of the architects used to have her office in her large Georgian house. At one point there were seven people working in the living room and it was very cramped. Working in the home was...

"...brilliant for me, but not so great for anyone else... there was no meeting room, the printer was outside the kitchen, the photocopier was half-way up the stairs, everything meshed in together. Everyone arrived by bike so the hallway was piled full of bikes." LW08

So she collaborated with two neighbours to buy the tumbledown mews buildings at the bottom of their gardens, where she built a terraced live/work development, accessed from a subsidiary road [fig 128, 129]. It comprised an office for her architectural practice, an office for her husband's photographic agency, and three other live/work units.

"Moving down the bottom of the garden felt like separation again. It was brilliant for me, my youngest child was one, and the oldest was ten years old; I could have both things." LW08

She considered it to be...

"...the ideal spatial model... it's medieval really, the economic means is part of the house. It does work... we are very, very lucky. There are not many places it is possible, but in new-build situations it would be possible." LW08

A wide range of different spatial arrangements was revealed in the interviews. They emphasised the fundamental difference between this building type and 'dwelling', refuting the frequently aired view that the 'spare bedroom approach' is adequate. These different spatial arrangements often had ramifications for the design of the entrance to the workhome.

Most participants were happy with the way their workhome was entered from the street. In some cases they had two entrances onto different streets. The architect with the mews-style office had entrances to her house and her office accessed from two streets with quite different characters. Domestic comings and goings took place through the elegant Georgian front door of their mid-terrace house onto a London square, employees, clients, and sales representatives all entered the office from a smaller-scale somewhat ramshackle mews [fig 128, 129].

"I like having two front doors, it creates two different worlds. It's a good model... a public entrance for work; employees [she had nine] need a separate entrance. It also makes a showpiece for prospective clients. I like the formality of the entrance off a different street." LW08

Similarly, the market-gardener's house faced onto a small rural lane, while the business entrance to her adjacent greenhouses and yard faced onto a parallel road through a

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Figure 128, 129: An architect's dwelling overlooking a Georgian London square, her office, located at the bottom of her garden and accessed from a subsidiary mews road (LW08)



Figure 130, 131: A market gardener's dwelling, accessed from a country lane, her adjoining glasshouses and yard accessed from a parallel road into a housing estate (LWR05)

housing estate [fig 130, 131]. She used the business entrance when she was working and the house entrance when she was not (LWR05). One of the graphic designers inhabited a live/work unit that had been designed with two separate entrances, again onto separate streets and, in fact, with separate addresses. The entrance into the 'work' space had industrial scale double-doors and was accessed off a main road, while that into the 'residential' space was domestic in scale and opened into the kitchen, accessed off a rear walkway above a parking area [fig 132, 133]. These amounted to 'front' and 'back' doors to her workhome, which consisted of a single building, divided spatially through the use of partitions and internal doors. She always used the 'front' door, although her neighbours, also home-based workers, always used their 'back' doors. She liked the engagement it gave her with the immediate neighbourhood:

"I always come in the front door; everyone else walks all the way down and back up again. The back door has access to the car park, and a sitting-out social space. It is residential only. The neighbours never use their front doors. They never clean up the front... so it doesn't look as if anyone lives there, so they have a problem with graffiti. When I first moved in, people thought it was a shop or an office... People have a mental barrier to your home, they treat it differently." LW38

The furniture-maker, involved in a family enterprise, had a separate front door to their workshop, and to their residential accommodation above, onto their industrial estate, but also a linking door between the two [fig 96, 97]. The separate residential entrance prevented dust from travelling upstairs into their home, and kept the children safe from machinery and tools (LW09).

Some of the participants' workhomes had two adjacent entrances onto the same street. One of the licensees said she liked this arrangement [fig 134]:

"It is totally flexible which front door we use when. Sometimes when we are feeling the pressure of the place, we will deliberately use our own front door, to keep separate from the place. Coming home from school, however, we will nip through the bar. My son likes saying hello to everyone, however brief; he can say hello to his dad, because his dad is working in the bar. If I am bringing home shopping I tend to use our own door, to give me a bit of privacy... so everyone doesn't see what I've got. ...If anyone puts their head through that door [from the bar to the residential accommodation upstairs], he [the husband] will go mad... one cleaner once went a few steps up, and I thought world war had broken out. He is ferociously protective of the upstairs environment being separate. Beyond what I would have thought was reasonable, but I think it's a good idea." LW37

A number of the shopkeepers also liked having separate entrances to their shop and their residential accommodation. One used the shop entrance during the daytime, but used the front door to the house when the shop was closed [fig 135]. He was also glad

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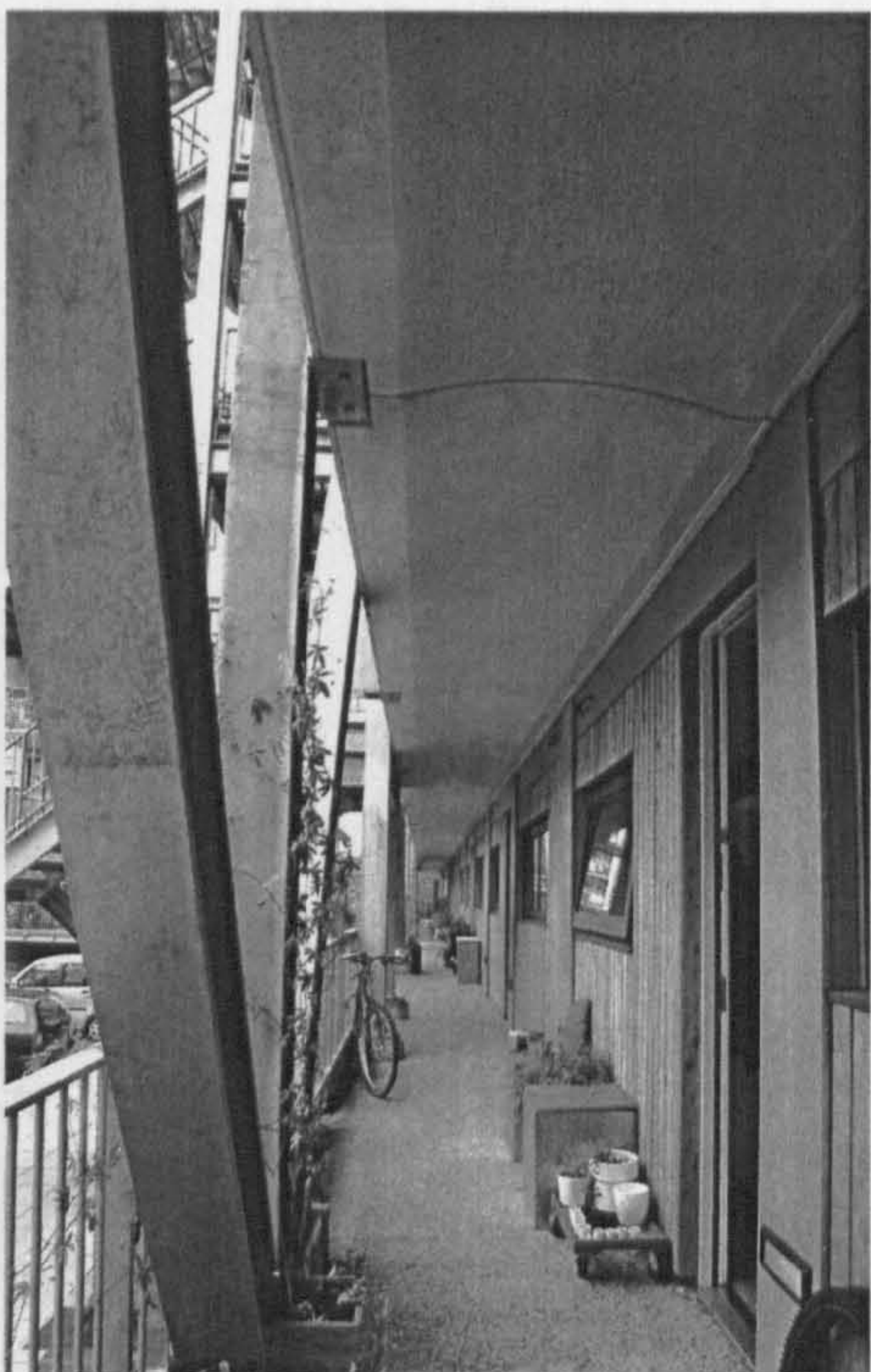


Figure 132, 133: An illustrator's live/work unit with two entrances, one for 'work' from a main road, the other, 'residential', from a rear walkway adjacent to the carpark (LW38)



Figure 134: A licensee's workhome, with separate, adjacent entrances to the bars and the flat above (LW37)



Figure 135: A shopkeeper's workhome, with separate shop and dwelling entrances (LWR01)

to be able to lock the connecting door between the shop and the house at night, and to be completely separate (LWR01). Similarly, the gallery owner's whole family came and went through the shop when it was open, only using the front door to the house when the shop was shut [fig 116] (LWR06).

For some participants, including the plumber (LWR08) and one of the Baptist ministers (LW17), having a 'front' door and a 'back' door provided a filtering system. People known to the household used the back door, while newcomers used the formal front entrance. The garage proprietor had had problems protecting their household privacy in the past, and as a consequence had built a layered 'defence' system between the garage forecourt and their back door. This consisted of having to go through a full height gate in a solid fence, kept closed, and then a sharp angled turn around a garden path, before reaching the back door to the house (LWR02). The baker had had similar problems, and had taken to locking the side-gate that gave access to her house when the bakery was closed. Family members had keys and no one else had access to the family without prior appointment outside working hours. Although the house had a front door onto the street [fig 136], it was understood that this entrance was not used, particularly in the context of family members who slept during the day, baking being a night-time activity (LWR12).

In addition to the number of participants who liked having separate entrances to the 'workplace' and 'dwelling' areas of their workhome, many were also happy with a single entrance. The funeral director did not mind entering his flat through the funeral parlour [fig 60], although he was clear that this arrangement would not work if he had a family (LW14). One of the shopkeepers was also happy to have a single door and to enter his flat from inside his shop, as he would not want the floor area of his shop to be reduced to accommodate a separate residential entrance (LW19). One of the architects, living and working in an open-plan live/work unit, said he did not see the point of having a separate entrance [fig 112], although he did acknowledge that there were problems with his set-up in terms of his partner and employees working in the space when he was ill (LW45). The school caretaker had no problem coming into his house through the school gates and playground [fig 62]; he liked it for security reasons (LW15). But his wife did not as she thought she would not be heard in an emergency. The residential care-worker said that the whole care-home felt like her home [fig 137], so she had no need for a separate entrance to her accommodation (LWR20).

Some participants, however, were not happy with the way their entrance was organised.

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Figure 136: A baker locked her gates when the bakery closed each day at 2.30pm. No-one used the front door to her adjacent house, as family members slept during the day, hence the family was voluntarily cut off from the world once the shop was shut (LWR12)



Figure 137: A residential care-worker considered the whole care-home to be her home, so she had no need for a separate entrance (LWR20)

Some people with single entrances would have preferred to have two separate entrances for the workplace and the dwelling aspects of their workhomes. These included the graphic designer who disliked having to bring clients through her domestic spaces to get to the workspace (LW04). It also included an architect inhabiting a self-designed live/work unit, despite the fact that the unit had been designed with a separate entrance, in the form of glazed French doors directly between the main workspace and the street. However, without a lobby and taking up precious floor-space in the unit, this entrance was not in use (LW23). The psychotherapist/writer said that having a separate front door would make a great deal of difference to her, both in terms of being able to maintain a more impersonal environment for her clients in a separately accessed consulting room, but also through not having to worry about sound transmission from inside the home (LW44).

One of the photographers, inhabiting a live/work unit, disliked the fact that her unit was entered through the workspace [fig 138], because of interruptions caused by both her family coming and going, and neighbours passing (LW03). The costume designer-maker, while enjoying the level ground floor access to her industrial unit, was frustrated that its double-doors had been placed opposite those of her neighbour, across the corridor [fig 139]. She found this caused problems of sound transmission and loss of privacy when she had her doors open in the summer (LW07). The clothes sales-person, inhabiting a privately rented flat, noted that she often had a number of customers with baby-buggies visiting her at the same time, and this caused problems of congestion in her entrance hallway (LW22). One of the architects, living and working in a self-designed studio-house, recognised that, while having the formal office space opposite the entrance to the house worked well [fig 140], placing the bedroom next door to the office and opposite the front door had not been such a good move (LW26). The florist noted that the positioning of the entrance to her shop compromised the privacy of her residential accommodation, and as a result placed a screen in front of the front door to her flat during the day [fig 141], so customers did not try to use that door (LWR17).

Three participants had problems with vandalism and having to deal with undesirable visitors as a result of inhabiting industrial buildings that appeared to be empty at night. The artist, living and working communally with other artists on a floor of an industrial building, commented:

"We have problems with our entrance... people think it is a nightclub, or a music studio [fig 142]. We suffer vandalism, people have smashed our door in, stolen our mail, pissed in our doorway. It doesn't look inhabited at night...

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Figure 138: A photographer disliked having the entrance to her live/work unit through her work-space as she was disturbed by both passing neighbours and family members coming and going (LW03)



Figure 139: A costume designer/ maker disliked having the double doors to her space opposite those of her neighbour as it compromised her privacy and caused problems with sound transmission in the summer when the doors were open (LW07)

Figure 140: An architect found that positioning his workspace next to the entrance to his studio house worked well. However placing the bedroom next door to the office and opposite the front door had not been such a good move. (LW26)



Figure 142: An artist had problems with vandalism around their front door. (LW42)

Figure 141: A florist placed a screen in front of her flat front door when her shop was open to prevent customers getting confused and trying to use it. (LWR17)



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no one has ever come up to the second floor at night. When first moved in it was a building site, and we all slept together in the major space, it was terrifying, terrifying..." LW42

The costume designer/maker, the only person living on the ground floor of her industrial building, had also had to fend off a 'crack-head' at night [fig 113, 114, 115] (LW07). Another of the artists had problems with...

"...the youth centre and clubs downstairs... there were junkies on the stairs, we suffered violence and harassment and late night drunk people. This led to the door on the stairs being locked at night... however this is lethal from a fire exit point of view..." LW31

A distinction emerged between workhomes with one or two entrances. While many participants were happy with their single entrance, some would have appreciated the spatial separation, and functional differentiation, between the two functions that a second entrance would have given them. This is an important issue for the design of future workhomes.

A further design issue emerged around mess and storage. Many participants were concerned about the mess that surrounded them in their workhome. One of the illustrators said:

"...tidying up seems pointless, as it gets messy again straight away... I have a constant fight with mess [fig 143]. It doesn't bother me, as it looks more like a studio, mess is a comfort, a constructive mess: 'it's my mess' but it inhibits me from inviting friends over. The house is a mess because I work here." LW13

One of the artists acknowledged he lived in a mess, but was not bothered about prospective purchasers seeing it. He said:

"They expect artist's studios to be untidy. It doesn't bother me. I don't need to keep my world private. It's very personal work, so I'm opening up my personal world anyway... I don't have to keep up any kind of an image." LW41

The musician/ events organiser had a different approach:

"If you are sitting eight hours working at home, you can't sit in mess... all the shelving is behind me... this has two advantages, the books act as a great acoustic baffle, and also don't I have to look at the mess. However I would like a bit bigger space, and books and files stored without being seen." LW27

The majority cleared up prior to the interview, despite being asked not to, and many spoke at length about storage. In a minority of cases they had plenty of storage. The graffiti artist ("paint is my life") had converted a third of the floor area of his industrial unit into a paint store, in which he held a stock of ten cans each of 174 different colours

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Figure 143: An illustrator's workhome (LW13)

(LW24). One childminder's flat incorporated a storage wall, so she was able to fold up buggies and put them away when her charges arrived (LW48). The rector had a large walk-in wardrobe for his cassocks and surplices in his study. The plumber stored basic stock (such as copper tube) in his garage, and big drills, wrenches and spare levels in his shed. He used his van as a mobile store for his regular tools, leaving it parked beside his house at night.

Far more participants, however, bemoaned not having enough storage. The social policy researcher commented that...

"...there is an appalling lack of storage in terraced houses in general" LW01

The attic-based graphic designers added:

"You can never have enough storage... we built under all the work-surfaces, and created a 'replacement attic' cupboard over the stair-head, as we lost our attic storage when we did the conversion. We could do with more bookshelves..." LW04 [fig 105]

The costume designer/maker, inhabiting an open-plan space, remarked:

" You need a 'crap' storage area, for stuff you don't want to see such as the ladder, the bike ..." LW07 [fig 139]

The clothes sales-person, keeping her stock in her airing cupboard in her bathroom, said:

"...There's nowhere to leave it [her stock]... you can't leave it out. I don't have nowhere to put it, I don't have no storage" LW22

The nutritionalist and the funeral director used their spare bedrooms as stores. One of the architects inhabiting a self-designed studio-house found, after only a short period of inhabitation, they had a storage problem. Files and boxes were piled on the floor [fig 144]:

"It's becoming a major issue, we have reached our capacity already." LW26

They had a 'shop-front' area where they kept their models, but it too was reaching its capacity, and they mentioned that they might have to move their office into a larger, separate, space. The building surveyor had files piled high on every available surface in his Portakabin [fig 145] (LW36). Several of the shopkeepers lacked storage space, and so kept all their stock on their shelves. This resulted in frequent trips to their cash-and-carry to replenish their shelves (LW05, LW19, LWR01). One of the childminders, whose flat was over-run with toys, said she could do with a lot more storage space (LW47). The caterer/preserves maker kept food in commercial fridges and freezers, shelves of equipment and a pallet of glass jars for her preserves in her garage. She also had a shed full of her catering crockery and glasses, and a large walk-in larder where she stored fresh ingredients (LWR07). The managing director of the manufacturing company

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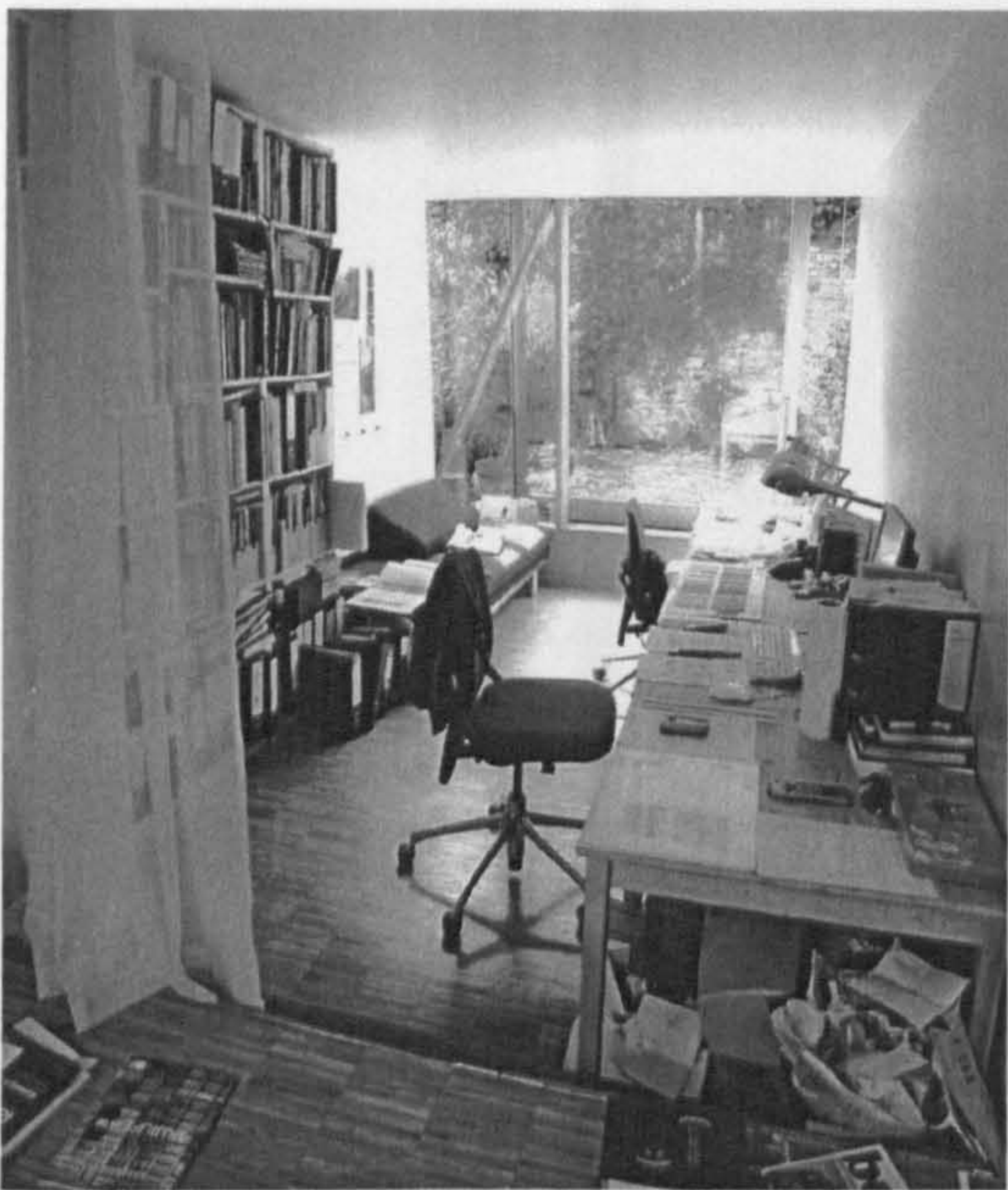


Figure 144: An architect found storage swiftly became a major issue in his purpose-built studio-house (LW26)

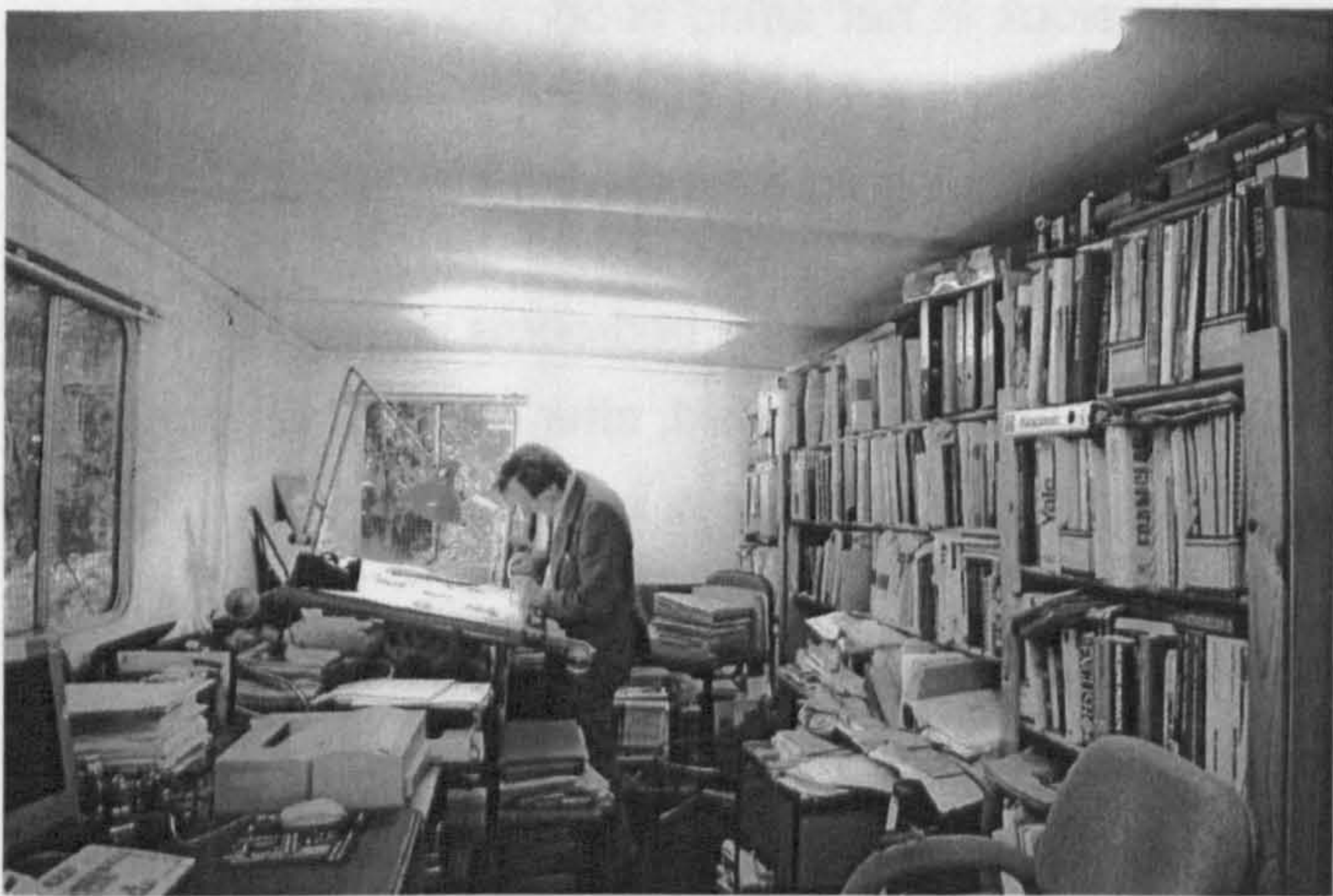


Figure 145: The interior of the building surveyor's Portakabin (LW36)

had also appropriated his garage for stock (LWR15). The IT specialist, working at an off-the-shelf 'home-office' installed in the spare bedroom of his terraced cottage, said:

"There's not enough [storage] space. I have a problem with storing records, hard copy, and stationery. It's about my only problem." LWR10

The curtain-maker stored rolls of fabric on her sofa and on the dining room floor, completed jobs were put in the spare bedroom until they were collected or delivered (LWS06).

Some participants needed specialist storage space. One of the photographers had made a lockable fireproof cupboard for his back-ups and negatives (LW29). An artist said that he always had a few paintings stacked up in the studio, and needed a storage-rack, (LW41). Another, (and his six fellow residents), used the fire escape as a place to store their canvasses, despite their flammability (LW42).

Storage is one of the areas of design that tends to be neglected. It emerges as a major issue for the home-based worker who has to accommodate both domestic and work-related items, while inhabiting the same space/building day and night. A further design issue that emerged concerned vertical circulation and the design of the workhome on different levels.

Two participants took the, maybe predictable, view that, having their workspace and their kitchens on different levels would involve them running up and downstairs all day, and this would be undesirable. As a result they both had their kitchens adjacent to the spaces they worked in (LWR01, LWR08). As mentioned elsewhere, a number of the participants enjoyed the fact that their workroom and their kitchen were on different levels as running up and downstairs gave them some exercise each day. One of the childminders enjoyed having a working space on a different level to her living space. Having converted her first floor bedroom into a playroom for her charges, she used the change of environment as a part of her routine with the children each day:

"...then all the kids go upstairs. I like having a separate upstairs space; it helps with my routine. I have different toys and games upstairs. The children like going upstairs for the activities... when its time to go upstairs they run up the stairs. It gives them a change of scene." LW47

Participants often also used their external spaces for a change of scene.

Many spoke of the importance of their spatial and visual relationship with the outside world. A number took short breaks in a garden, or on a balcony or terrace, during their working day. The social policy researcher commented:

"I sit at the head of the table [in her dining room] with a view out into the

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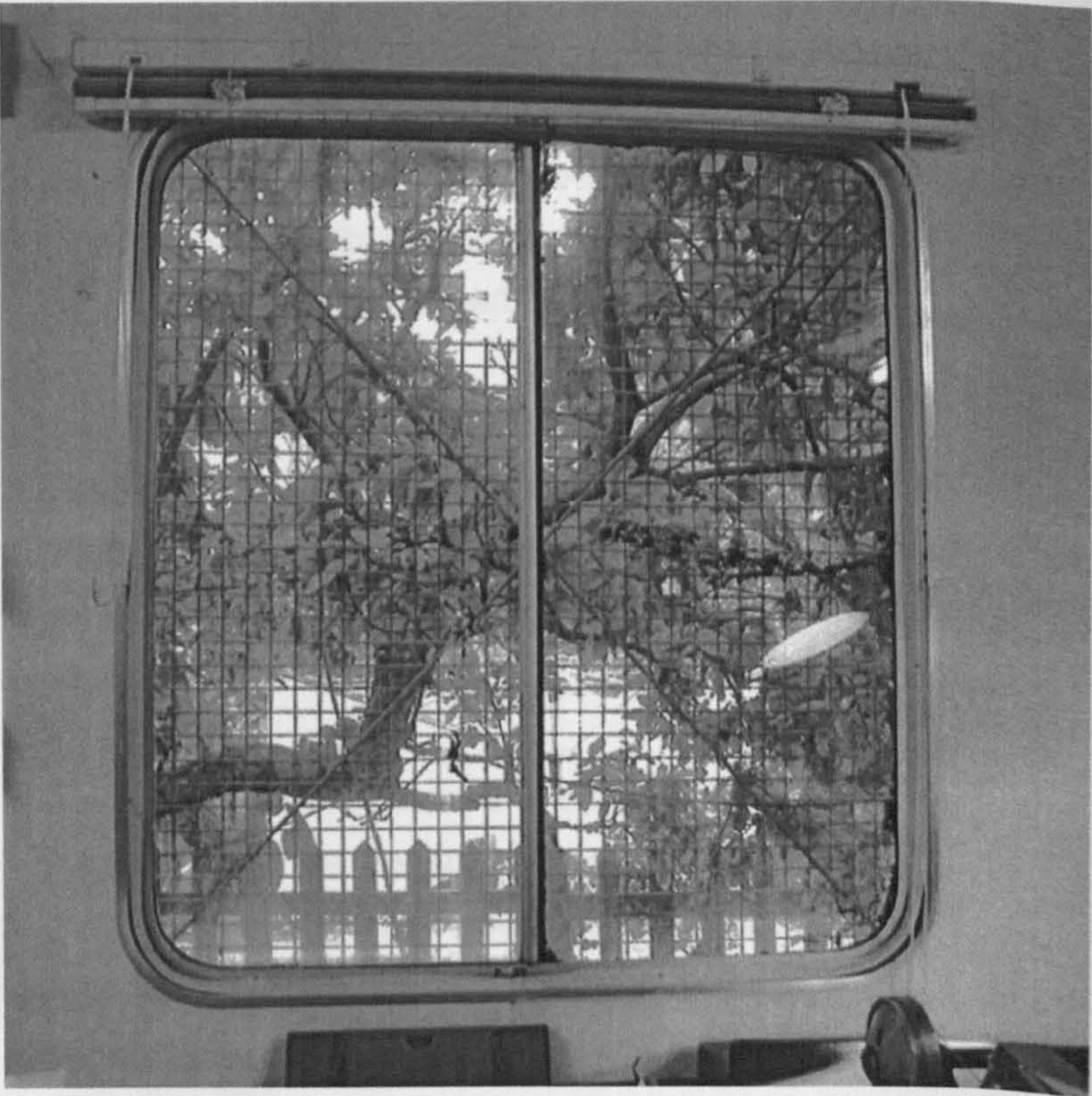


Figure 146: View through building surveyor's Portakabin window (LW47)



Figure 147: Relationship between sliding garden door and academic's study (LW06)

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garden... I get up walk about, go into the garden, have a bit of a think, it works really well." LW01

A number also enjoyed looking out at their gardens; the building surveyor working in the Portakabin in his garden said:

"The one big advantage is that I am sitting in my garden and I can sit and watch the squirrels and the robins, and wrens playing about in the tree, it's very nice. It's ruined the garden, but it's very nice being in it. I listen to birds, and positively enjoy working there. The view is lovely... straight into a medlar tree, with wrens playing..." LW36 [fig 146]

The nutritionalist concurred:

"It is very nice having French doors out onto the garden, there is a nice outside/inside feel. People say 'why don't you convert one of the bedrooms into an office'; but it would drive me mad. I would get really depressed if I had to do that, working upstairs in an office. I am very much a free spirit; I need open air and outdoors... My ideal working space is near the outdoors... the worst possible thing for me would be to go and shut myself away upstairs." LWR13

A number, including a Baptist minister (LW11), one of the architects (LW16), and the writer/editor (LW20) did a bit of gardening when taking breaks from their work. One of the academics said:

"I have a large sliding door into the garden and leave it open in the summer; I like the inside/outside fluidity. I wander out to do a bit of weeding for a break." LW06 [fig 147]

Some participants, including one of the illustrators (LW38) and the carpenter (LW34) worked outside when the weather permitted it. The translator particularly enjoyed the relationship between his office and the garden:

"We have the [French] doors open in the summer. I love it... occasionally we work out there... we can get a broadband signal in the garden, and get around the problem of glare by hanging things on the washing line." LW39 [fig 148]

Some participants overlooked the street as they worked. One of the academics commented:

"I like looking out of the window, watching the street. I look out a lot..." LW28

The IT specialist also enjoyed the view:

"I was thinking about converting the garage [into a workroom], but it gets very cold. Also I can see everything that goes on in the village from where I work, and that is very entertaining. Whenever I have worked in British industry, I have always chosen an office with a view. Most of the time I don't look, but I think the views are important, and therefore wouldn't move down to the garage." LWR10

The managing director of the manufacturing company agreed:

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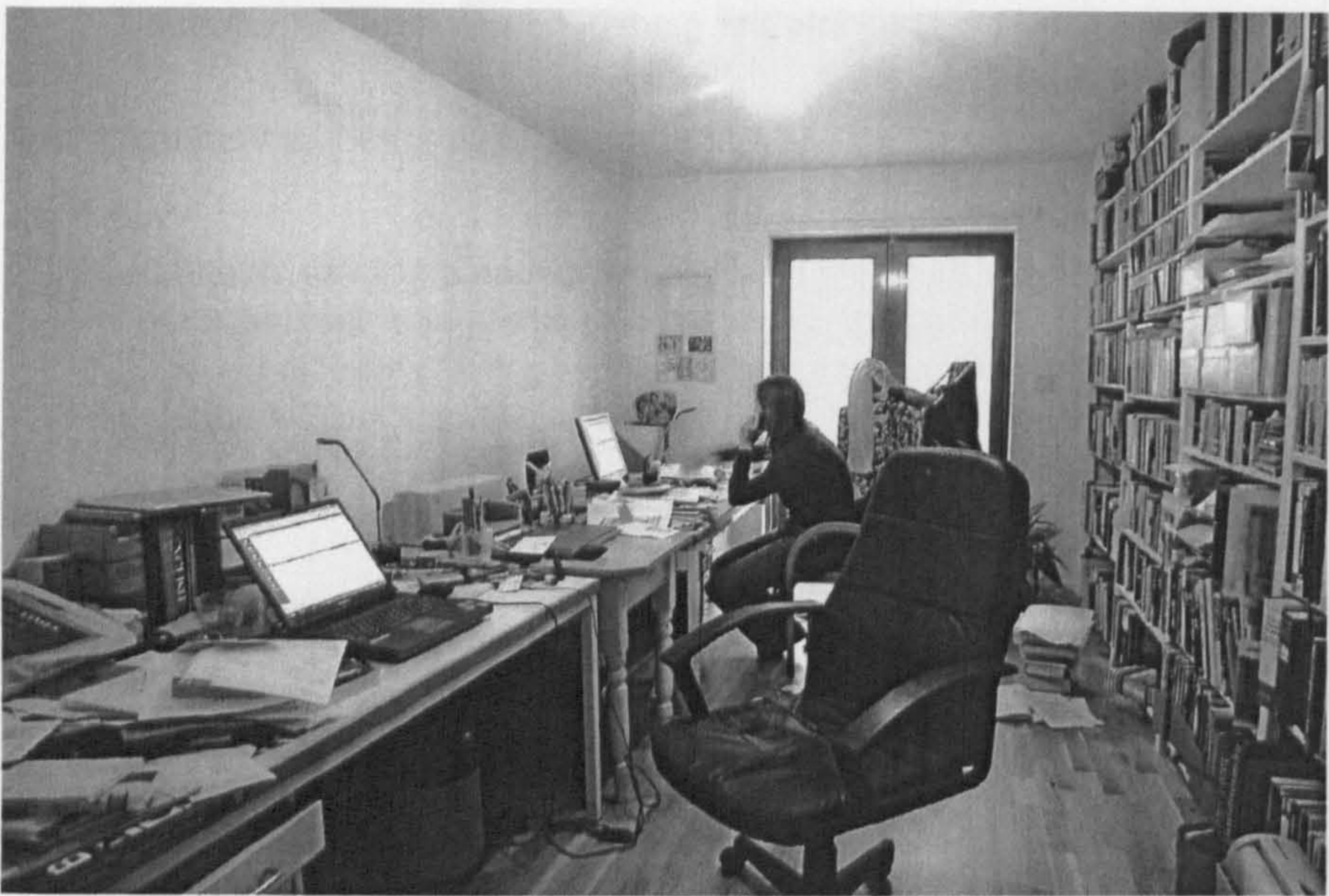
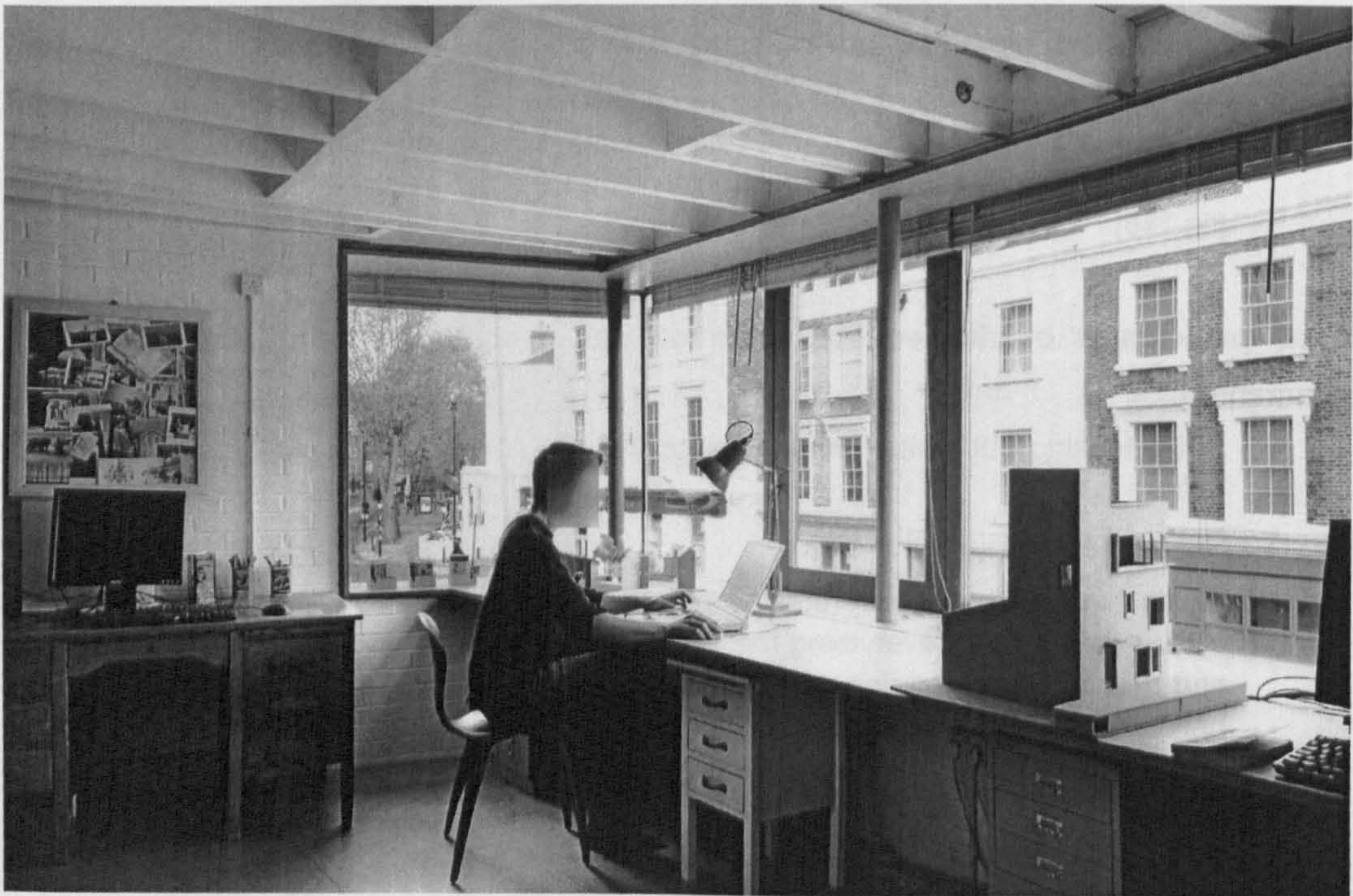


Figure 148: French windows to garden in translator's workroom (LW39)

Figure 149: Architect's panoramic view from second floor studio (LW43)



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"I can look out of the window to the gateway onto street and I enjoy watching people passing." LWR15

An architect inhabiting a self-designed studio-house commented:

"There is a deliberate sense of a professional presence on the street... the house was designed around that... the office [on the second floor overlooking the street] is very public. Upstairs we are very much part of the street, while the lower ground floor [domestic space/meeting room] is somewhat detached... Up there you have this big window, and you are very much in contact with all the street life... actually if you sit around at home all day you want a bit of contact with the street [fig 149]." LW43

Three participants spoke of problems with being overlooked while they worked. The soft-furnishings designer/maker, working in a shed in her large suburban garden, kept the blind permanently closed, as her workspace was oriented so the neighbours were able to watch her when she was working, which she found distracting (LWS02). One academic, living and working in a dense urban area, disliked being watched by a neighbour whose house overlooked her study.

"The neighbour at the back watches me, I find it very spooky; I have no blinds. I like looking out, however I can be seen without seeing." LW06

The third, an academic working from a desk in his second floor bedroom, said:

"Someone else is now also working from home across the street, a lawyer, ... I feel she has slightly invaded my space. I can't pick my nose in peace any more..." LW28

Three participants (LW24, LW33, LW34) were part of a youthful, childless community of more than 100 people who worked in creative industries in a group of industrial buildings, a true 'creative cluster'. Front doors were left unlocked and people wandered in and out of each other's spaces and collaborated in projects. Small units and cheap rents enabled an undifferentiated lifestyle. Their industrial units had sleeping platforms but only basic services, a sink with cold water supply, the kitchen in one consisting of just a fridge, a kettle and a microwave. The yard outside the building functioned as a collective social space and as a 'canvas' for the graffiti artists in the building.

The participants were articulate when discussing spatial issues concerning their home-based work. Many spoke about the importance of both the size and quality of their spaces; most did not have enough space. There were radically different approaches to the degree of spatial separation between the workplace and the dwelling aspects of the workhome. Some participants' homes were minimal corners in their workplaces. Other participants' work was almost invisible in their homes. A variety of different relationships

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Figure 150: Bed and breakfast in a C17th thatched cottage (LWR09)

to the street and to external space were also apparent. Most participants found mess and lack of storage to be a problem. Participants often enjoyed working on different levels as it gave them both a change of scene and a bit of exercise. Neither dwelling nor workplace, the spatial complexity of the workhome was revealed in the interviews.

The participants also spoke at length about the environmental issues that affected them in their workhomes. Acoustics were mentioned most frequently and emerged as perhaps the most crucial environmental issue. Many buildings were inherently acoustically problematic for home-based work, sound transmission from the outside-in, from the inside-out, or from within the workhome, causing problems for their inhabitants. Three timber-framed houses had poor sound insulation between spaces. A picturesque seventeenth-century thatched cottage [fig 150] proved, for example, to be an inappropriate environment in which to run a bed-and-breakfast:

"It's not an ideal house for b & b. You can hear anything throughout the house, it's a very old house, seventeenth-century, thatched, but it has no ceilings... just [square-edged] floorboards on top of joists. You can therefore hear every word. If we're having dinner with the TV on [at the other end of the house], we turn it right down so the guests can't hear it in their bedroom... It being a cottage it's not very well [acoustically] insulated. We are conscious of not making too much noise, especially in the kitchen, which is below the single bedroom... we have to creep around in the morning. We always lay the table the night before so we don't crash about underneath them in the morning." LWR09

The classical musician, inhabiting an eighteenth-century cottage, also found a lack of acoustic separation between spaces to be problematic:

"I would prefer to rehearse in a separate music room. The hole in the wall between the dining room and music room means no-one in the house can put the radio on... there is no acoustic separation. I feel self conscious if people are in the house, so practice upstairs." LWR04

The music teacher, inhabiting the ground and lower ground floors of a terraced house, found that the noise of the music lessons permeated her own workhome, and the upstairs flat, but both her boyfriend and her neighbours enjoyed it:

"...He likes the lessons, there's lots of laughing" LW02

She said:

"I've only had one row in seven years. I've been lucky that they don't make a lot of noise upstairs, and don't mind my music going up. As it is a bedroom directly above [my music room], the hours don't conflict, unless I arrange an extra lesson on a Sunday morning... I had to apologise once, but they were very nice about it... they say they enjoy listening to the music." LW02

The costume-designer was regularly disturbed by the people in the industrial unit above hers:

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"The sound insulation is poor... upstairs they disturb me above my bed... they have squeaky wheels to one of their chairs... I bang on the ceiling with a broom. The noise from both upstairs and through door, does disturb me... it is an industrial unit, so unnecessary noise at night is annoying... I expect trolleys and suchlike during the day." LW07

One of the photographers, also inhabiting an industrial unit, had a similar experience:

"There is a lot of noise from upstairs, sometimes I jump out of my skin when they drop something..." LW33

Many other participants were disturbed by, or were concerned about disturbing, their neighbours. The school caretaker was aware that his living room was above a classroom and next-door to a staff room, and as a consequence he had to keep the noise down. He could also hear what was happening in the classroom:

"When play-centre used to have drumming club downstairs we used to be on tenterhooks, it sounded like it was in the room... in the end it was moved elsewhere" LW15

The manager of the National Trust historic house was concerned that sound of her television travelled into the 'show-rooms' below her apartment. The flat was carpeted throughout for sound reasons, but the wall between the office and bedroom, made from lath and plaster, performed badly in terms of sound insulation. She said:

"They are very good, they are very quiet, they creep along on a Sunday morning... if I was truly asleep it wouldn't wake me" LW30

The funeral director made it clear the noise of children would be difficult above the funeral parlour. All the licensees found that they could hear the pub noises upstairs in their flat. One said that they had acclimatised, but that people who came to stay often could not sleep through the noise (LW37). In four of the contemporary purpose-designed workhomes the problem of sound transmission for home-based work had not been anticipated. Two participants, both architects inhabiting purpose-designed studio-houses, experienced problems with open-plan, double-height spaces that allowed sound to travel, or 'rattle around'. In one case, the lack of acoustic separation between the domestic space and the workspace meant that late night work disturbed the sleep of a domestic partner. Clients faxing things through at odd times also occasionally disturbed them (LW40). In the other case there was apprehension about the sound implications of the imminent arrival of a first baby. This led to speculation that they might, at that point, have to move to a separate office. However, the house had been designed to be adapted to incorporate a spatial separation between dwelling and workspace, and so they had options (LW26). Two other buildings, one a live/work unit and the other a work/live unit, also presented their home-based working inhabitants with problems as a result of not having any acoustic separation between open-plan workspaces and living spaces.

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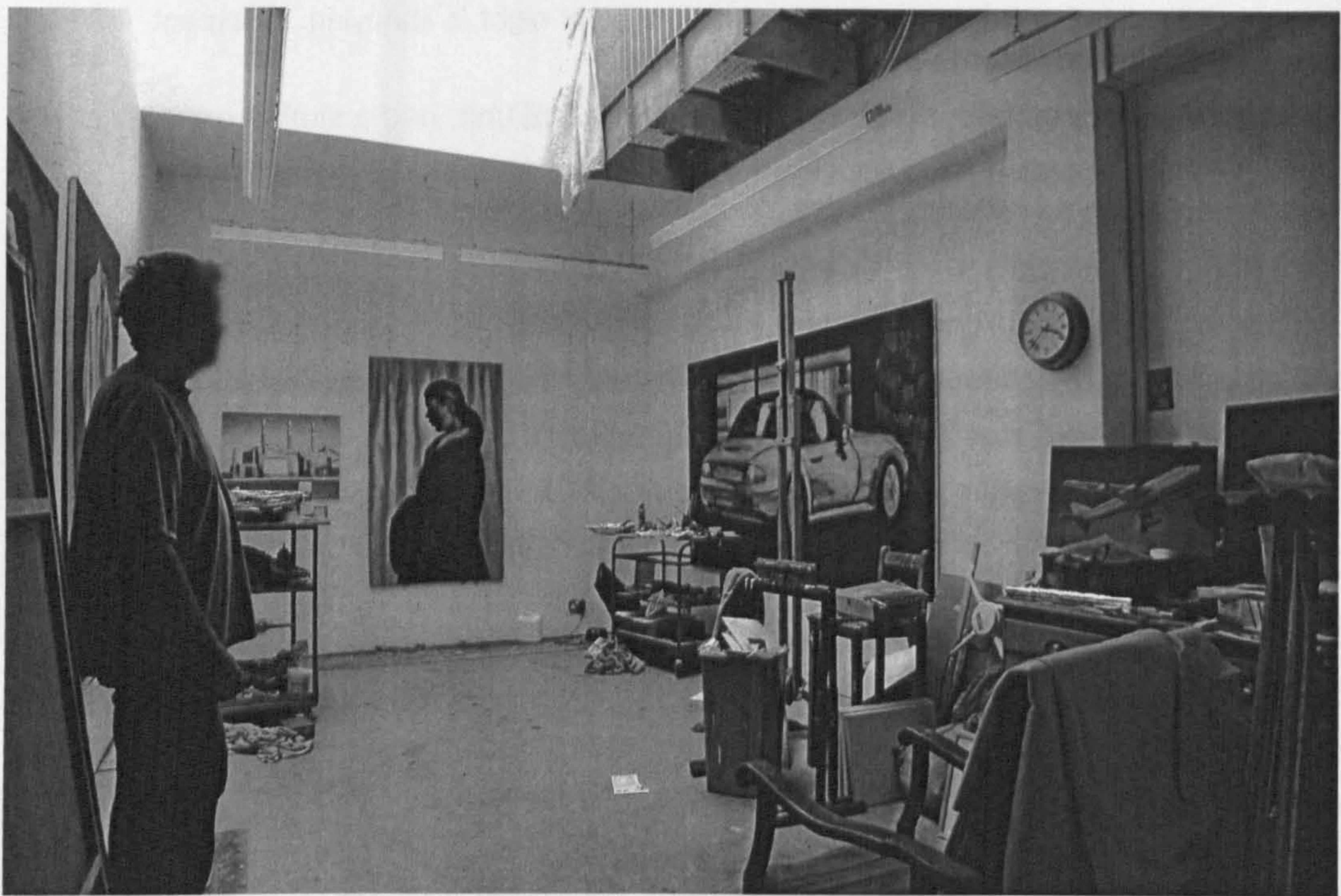


Figure 151: Double height artist's studio with living space on a mezzanine (LW41)

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This did not present a problem if the participant was the sole inhabitant, however one of the photographers often had to ask her partner to go out with their child while she worked [fig 138] (LW03). Similarly the artist inhabiting a double-height studio [fig 151] was disturbed if his girlfriend watched television in the mezzanine living space while he was working (LW41).

A number of people were disturbed by the noise of their own domestic appliances, and particularly their washing machine¹⁴⁶. The costume-designer, inhabiting an open-plan space, said:

"You need a separate sound-proof room for the washing machine... you can't get away from the noise" LW07

The curator found she was distracted by the noise of the dishwasher, so did not turn it on and then did not have clean dishes in the evening. A number of participants remarked that they used their washing machine outside working hours, when their clients could not hear it, or in the case of the bed-and-breakfast provider, once the guests were out of the house. The student, inhabiting a twentieth-century social-housing block [fig 152], spoke of the effect poor sound insulation had on his work, as a result of hearing his neighbour screaming at her children all the time:

"... I just can't stop thinking about her ill-treatment of the kids" LW46

He was also disturbed by the sound of his neighbour's WC and shower.

Some participants reported the beneficial effect of inhabiting a building with good sound insulation. These were, in general twentieth-century or contemporary buildings, with concrete as a primary construction material. The architect inhabiting the live/work unit commented:

"This building has good sound insulation. I can turn the music up loud and the concrete walls [and floors] means it doesn't disturb anyone. There is not that much noise of coming and going in the building... mostly from the ground floor B1 units, who work nine to five during the week. Live-workers work when they want and it doesn't affect anyone." LW45

Both the childminders, inhabiting different twentieth-century social housing blocks, reported that their workhomes were "very quiet, no noise from neighbours". In general, the large work/live unit inhabited by one of the photographers also performed well acoustically. Although the three floors were not spatially separate, he was able to shout on the first floor and not be heard on the ground floor [fig 109, 110]. A combination of a small sized opening for the spiral staircase between the ground and first floors, mass-based construction, and large floor areas meant that sound transmission between floors

¹⁴⁶LW04, LW07, LWR09, LWR13, LW44, LW45, LW46, LW49,

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Figure 152: Twentieth century social housing with poor sound insulation (LW46)

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was not a problem. However the upper floor, in this development of eight units, lacked adequate ventilation and this, in combination with large south-facing roof lights, caused a serious problem with solar gain. In an attempt to alleviate this, the photographer's neighbours opened their fire door onto a connecting escape corridor, and then noise transmission between units caused a serious problem.

"There is a problem with noise from the fire exit. The neighbours have their fire exit door open all the time in summer to get a through-draught, [this causes] big sound problems. Also everyone from the front of the building uses the fire exit to leave the building... It is major problem acoustically... especially as the wall to the fire escape is one of the worst walls in the building... you can hear right through it." LW35

Acoustics is often a neglected aspect of the design of buildings other than performance spaces. However it was a major issue for many of the participants in this research. Once again it became apparent that the workhome needs to be built to a higher specification because it is in 24-hour use. This was also the case with regard to heating.

Many participants raised issues about heating their workhomes. A number, particularly those working at or from their dwellings, did not put their heating systems on during the day in the winter, either because they considered it to be wasteful or because of the cost¹⁴⁷. The graphic designers who rarely put the heating on during the day in their well-insulated attic studio found it to be a "bit cold in winter", although when they went down for lunch in their kitchen below it was 'like the North Pole' (LW04). A number of participants spoke about putting on extra jumpers, as it got colder, including one academic:

"I don't have the heating on during the day unless it gets really cold. I go to put on more jumpers... I have poor circulation, so I get up and walk about. I can't afford to have the heating on all the time. I get worried about the heating bills. My [purpose-built] study is open-plan with the rest of house. I regret I don't have a way of heating the workspace separately. I didn't think it through." LW06

The musician/events organiser did not put the heating on at all in the winter in his small well-insulated studio:

"The room stays very warm... but anyway I'm old school, if it's a bit cold, I put a jumper on..." LW27

The journalist, on the other hand, found heat a real problem, working in a large bedroom in her flat in a Victorian house [fig 153]:

"It's really freezing in the winter. I don't heat the house in winter just for myself, I put on a hat, jumpers and use an electric bar fire... I have little 'fire breaks' from my work to warm myself up." LW32

¹⁴⁷ LW01, 04, 06, 27, 32, 37, R10, R15,

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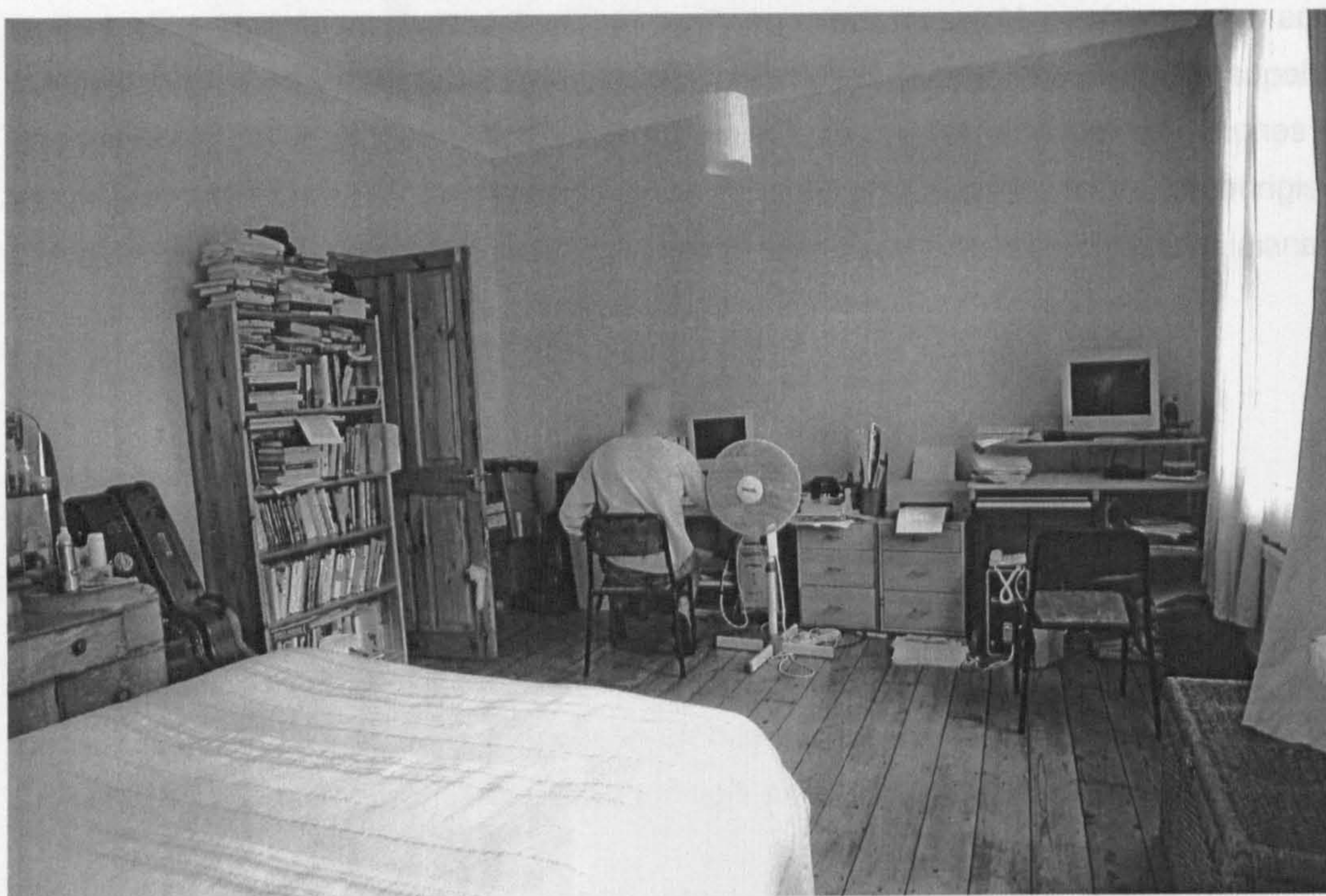


Figure 153: The journalist's workspace in her bedroom (LW32)

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One of the licensees put the heat on as little as possible upstairs in their living accommodation during the day, because of the cost. She recognised, however, that she used it more than someone who went out to work (LW38). Even the managing director of the manufacturing company admitted he did not put the heating on in the daytime in the winter. He said:

"I get cold feet, then I get up and go for a walk to warm up, or just flash the heating on for a bit to warm up." LWR15

Some participants, however, did keep the heating on all day at a low temperature through the winter, considering this to be as economical as turning it off during the day. Others, including both the childminders, kept it on at a high temperature and commented on how expensive this was (LW47, LW48). Some, such as the curator, just did not worry about keeping it on all winter (LW21). The furniture-maker had installed under-floor heating and said the bills "weren't too bad" (LW09). One of the Baptist ministers considered it was a matter of priorities, and for him comfort was important (LW17). The translator, sharing a workspace with his domestic partner, put the heating on when they got cold, but found that never needed to heat their office because the computers generated a lot of heat [fig 148] (LW39).

Many participants, recognising that they only needed to heat one space during the working day, had developed a local heating solution. One of the Baptist ministers had installed a gas-fire in her study:

"It makes a huge amount of difference. It means I don't have to heat the whole house. I used to sit with a duvet around my feet, and shiver..." LW11

The curtain-maker used a gas-cylinder heater:

"I never have it full-on, I'm Scottish..." LWS05

The costume designer/maker found that her space, although large and open-plan, was warm in winter and cool in summer as it only had one external wall [fig 113, 114]. She used two small oil-filled radiators when necessary (LW07).

Some of the workhomes had inherent problems with heating. Industrial buildings were often large, un-insulated volumes with no built-in heating system. The artist living and working communally with six others, said:

"The comfort factor is a bit low. I do miss thermostats... We put on two jumpers, two pairs of trousers and two pairs socks to go to work. We don't heat the studios and it gets cold in there, really cold. We tried heating our studios... one winter we all had electric heaters and then had an electricity bill of £4,000... we had to stop that. The bedrooms and kitchen are warm, and we have a lovely warm bathroom, but you have to go through the freezing

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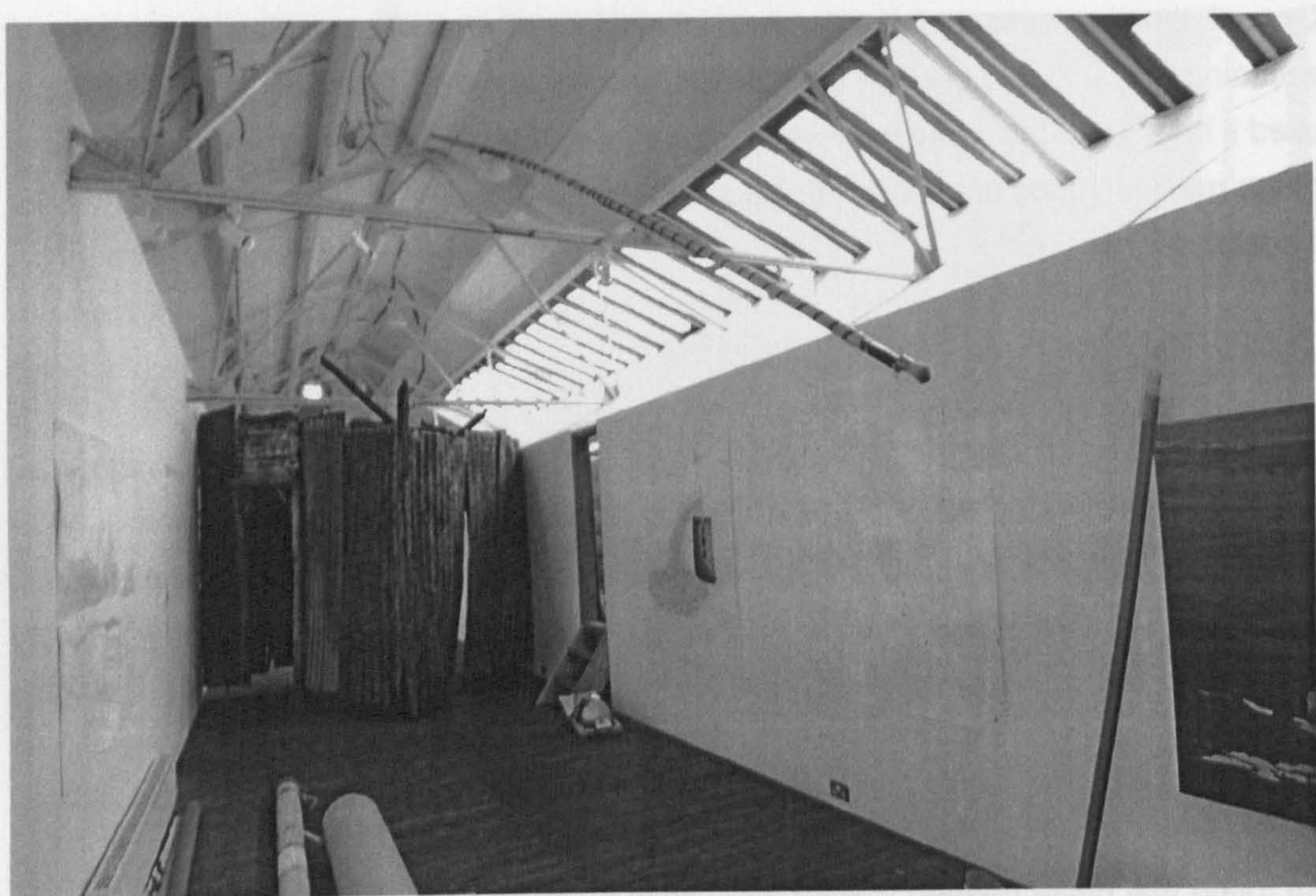


Figure 154: An artist's "freezing gallery space" (LW42)

gallery space to get to your bedroom [fig 154]." LW42

The open-plan, double-height spaces of one of the architect's studio-houses meant that, despite under-floor heating, the ground floor workspace was cold in winter, the heat 'shooting straight up'. He kept the heating on all day, and used both an electric fan-heater to boost it and a light curtain to try to keep the heat in the lower space, which he said "gets a little lost" [fig 144] (LW26).

In some cases the nature of the work taking place in the space caused environmental problems, particularly where fridges or cooking were concerned. One of the shopkeepers noted that he did not need any heating in his shop as the fridges gave off a lot of heat. In fact, he said...

"In summer it can be intolerably hot, we have fans on and all the doors wide open to create a through draught." (LWR01)

One of the licensees commented that their pub kitchen got very hot (LWR11). The fish and chip shop proprietor kept his shop door open all year round, and commented that his spaces were both very cold in winter and very hot in summer (LWR03). The caterer/preserves maker, with an Aga on all year round, said she had no problem in the winter as it heated the whole house and dried the laundry overnight, but that it was "very hot indeed" in the summer (LWR07). The baker said that the bakery also got very hot in summer, and that they had to use heaters in the winter or the bread would not rise, but once the ovens were on it got "very cosy and warm" [fig 155] (LWR12). The florist had to keep her shop cool, in order to keep the flowers in good condition, and the door open in order to attract customers [fig 141]. As a result she said she was...

"...very cold in winter. I have to keep the door open or people will think the shop is shut... I wear lots of layers of clothes and have lots of cups of tea. I often can't feel my hands and feet. I get colds but keep working through. It's also a problem looking after the flowers in the summer. I keep as many as can in the fridge, but have to keep them out of the shop window in the summer." LWR17

A number of participants spoke of problems with solar gain. One of the Baptist ministers had her desk under a large south facing window and found she got too hot in the summer (LW28). The photographer in the work/live studio did not need to heat his first floor as heat rising from his studio and solar gain from his roof-light provided more than enough heat. However in the summer the south-facing roof-light and lack of through-ventilation [fig 110] meant that his upper-level (architect-designed) space was intolerably hot, with temperatures sometimes reaching 55 deg C even with the windows fully open, and some days not dropping below 35 deg C at night. He was considering installing clerestory

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Figure 155: The bakery... “very hot in summer” but “cosy and warm” in winter (LWR12)

windows, as the lack of air moving through the building was even a problem in the winter (LW35). The illustrator inhabiting a purpose built live/work unit also suffered from a lack of through-ventilation. The large expanses of glass in her workspace [fig 162] meant the building suffered from

"...huge solar gain... I have to open all the doors and windows, and then it is very noisy from the traffic. It can be a real problem when it gets too hot. I tend to go and work on the walkway at the back." LW38

One of the architects commented that a combination of high levels of thermal insulation and solar gain in his studio-house meant that he did not need to put the heating on a great deal in the winter. A large retractable roof-light gave good ventilation, but he acknowledged that the double-height nature of the interior, combined with large glazed areas, meant that the upper spaces could get too hot [fig 192]. He planned to fit solar shading (LW40). Another architect, inhabiting an open-plan live/work unit with six large windows [fig 112], remarked that as a result of solar gain he often did not have to heat his space in winter (LW45). One of the artists had installed under-floor heating in his studio so he did not waste wall space with radiators. As his canvases needed to be kept at a fairly constant temperature and level of humidity, the 'work/live' nature of the space was beneficial. He happily worked bare-foot in winter and did not need to heat his mezzanine living space as the heat rose from the studio [fig 151] (LW41).

The need for heating systems to be flexible and for the workhome to have high levels of thermal insulation was emphasised. As the home-based worker was, in almost every case paying their own bills, there was an inherent desire for them to also be efficient. This is another area in which home-based work may prove to be a sustainable option. People are more likely to be profligate with energy they are not directly paying for themselves.

The issue of natural and artificial lighting was also raised by many participants, around a third of whom, inhabiting both purpose-built and 'as-found' workhomes, were happy with the levels of both and considered they had a good working environment. The photographer inhabiting a live/work unit commented:

"The light's great... I can even do day-lit work in the summer. The large areas of glass give good levels of [natural] light." LW03

The graphic designers in their attic studio concurred:

"It's very well lit, it's modern with lots of glass. But that's a nightmare for computers, so after we put in all the glass then we put in all the blinds [fig 124]. We find that flat-screen computers are less reflective, and are therefore less of a problem, but we have blinds that let a particular percentage of light

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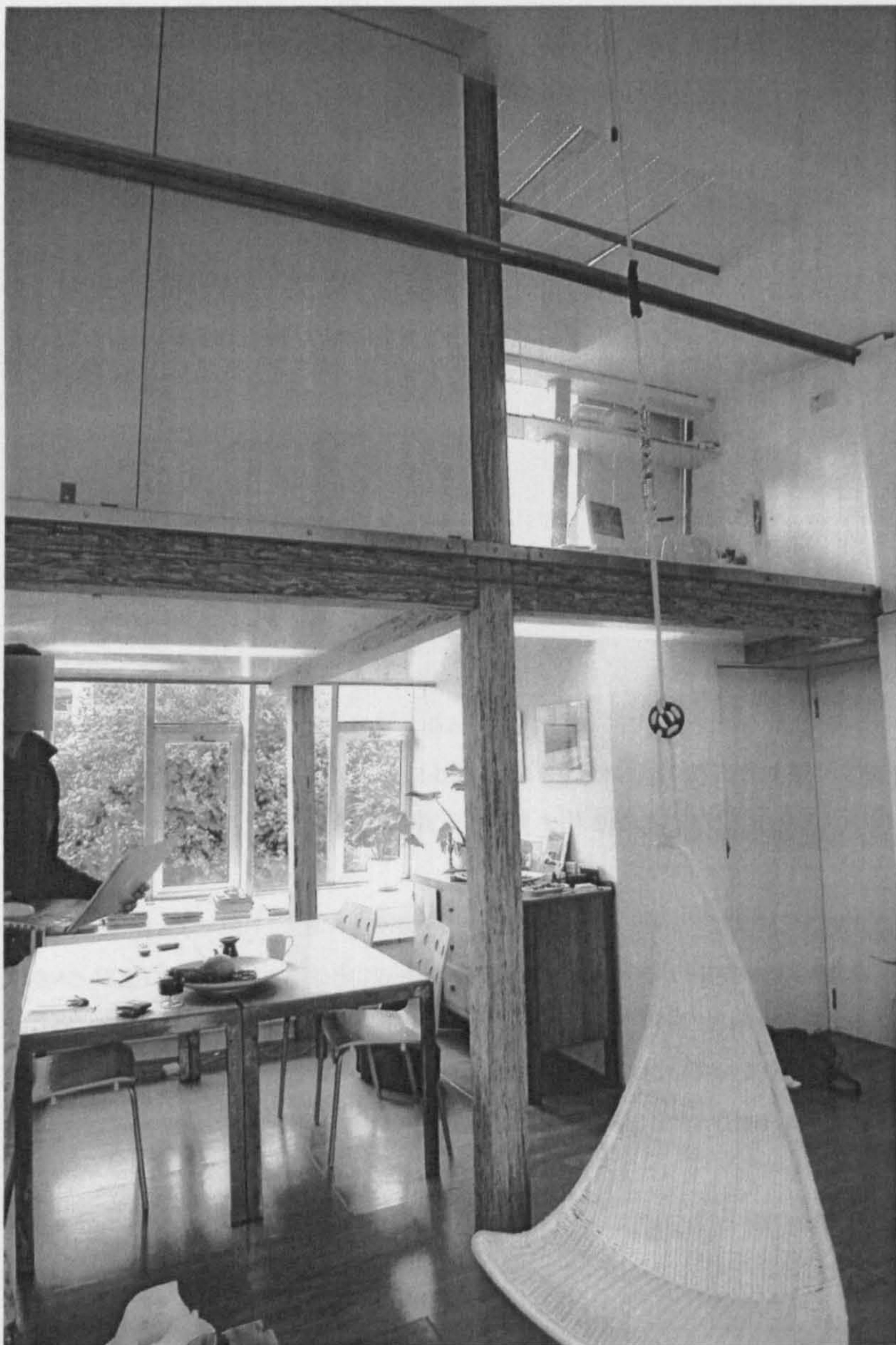


Figure 156: Architect's double height studio-house (LW40)

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through... when the blinds are down it is still light. We wanted a lot of light, to be up in the sky. It is just remarkable to see the weather systems coming in... moonlight streaming in, rainbows. From the human point of view, it is very calm up here, up in the clouds." LW04

While both Baptist ministers reported that they had plenty of natural light at their south-facing desks, they both found the sun got in their eyes and stopped them seeing their computer screens especially when it was low in winter. One had installed a double blind to prevent this (LW17). The BT manager found he had too much light on his monitors after inserting a large window when he converted his dining room into his workspace (LW18).

A number of other participants, including the social policy researcher (LW01) and one of the graphic designers (LW04), reported problems with glare, and others, such as the managing director of the manufacturing company, with the sun getting in their eyes while they worked (LWR15). One of the architects commented that he had tons of natural light but, because the space was lit front and rear, he had to sit at right angles to his window to avoid glare [fig 156] (LW40), while the journalist found that glare from the window meant she had to "sit in a very awkward position" [fig 158] (LW32). Another architect, working in his terraced house, found he moved around his space to avoid the sun being too bright on his screen, or changed tasks until the sun had moved [fig 108] (LW16). The curator chose to work on her dining-room table because it had good natural light. She also liked the...

"...sympathetic domestic lighting rather than flickering fluorescent tubes [of the standard workplace]" LW21

Some participants worked in spaces without any natural light at all. The curtain-maker said she had considered putting a window into her converted garage space, but did not mind working under fluorescent light ("I always have done...") [fig 157]. She commented:

"...The worst problem is that I can't see when it is raining to get the washing in off the line." LWS05

The costume designer-maker said:

"I have no daylight... it doesn't bother me at all... we make pit-pony jokes... we think it is bright inside, but when we go out it is blinding and we feel like pit ponies. My health is good, but I think it is probably not actually very good for me. I'm healthy but tired. The fluorescent lights don't bother me... everyone else hates them. My boyfriend has to sleep with an eye mask when I work late." LW07 [fig 133]

She did, however, find the lack of ventilation a problem:

"I can't open windows... I don't mind about light but I would like to [be able to] open windows. I have a ventilator, but I tape it up in winter... I open

The workhome... a new building type?

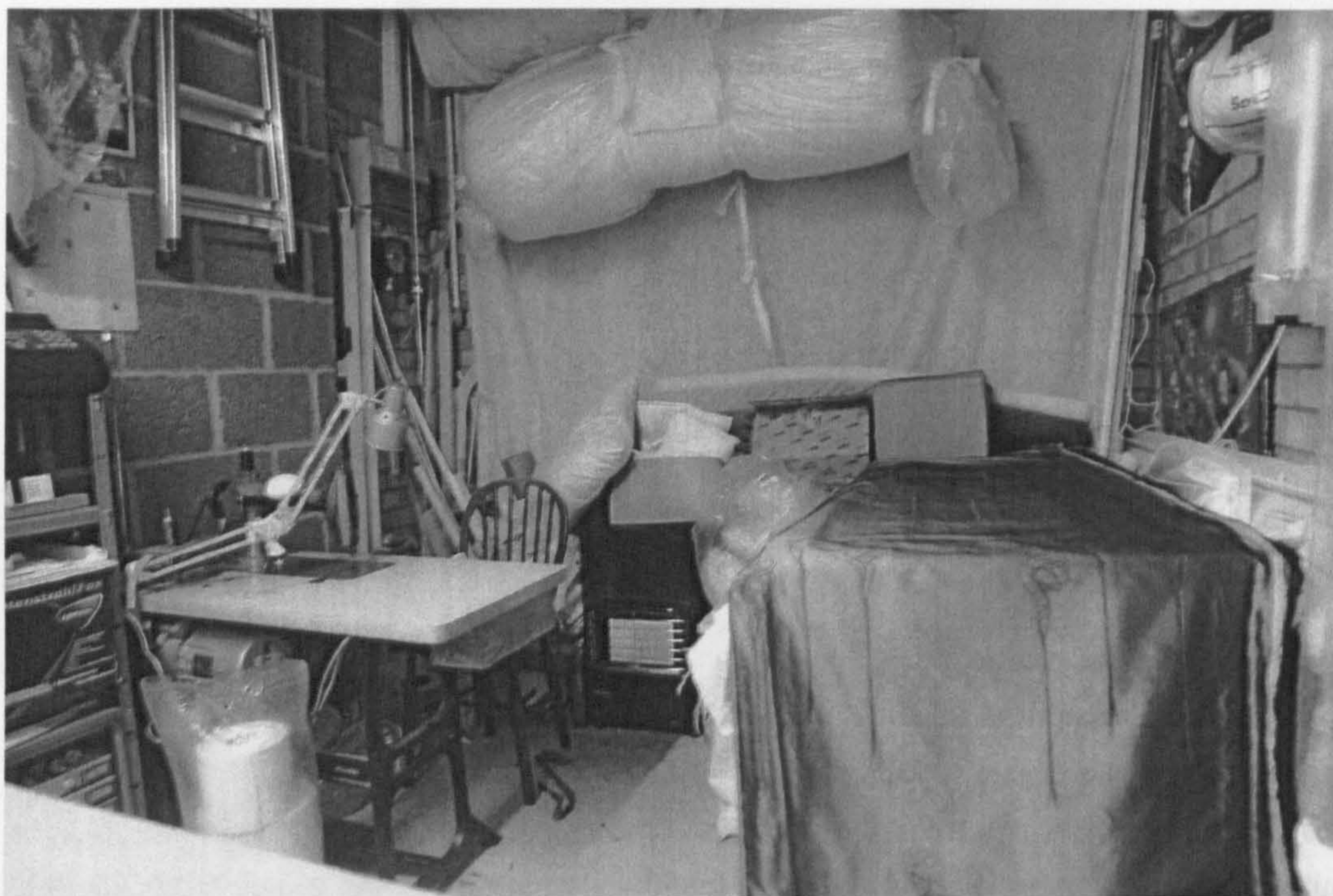
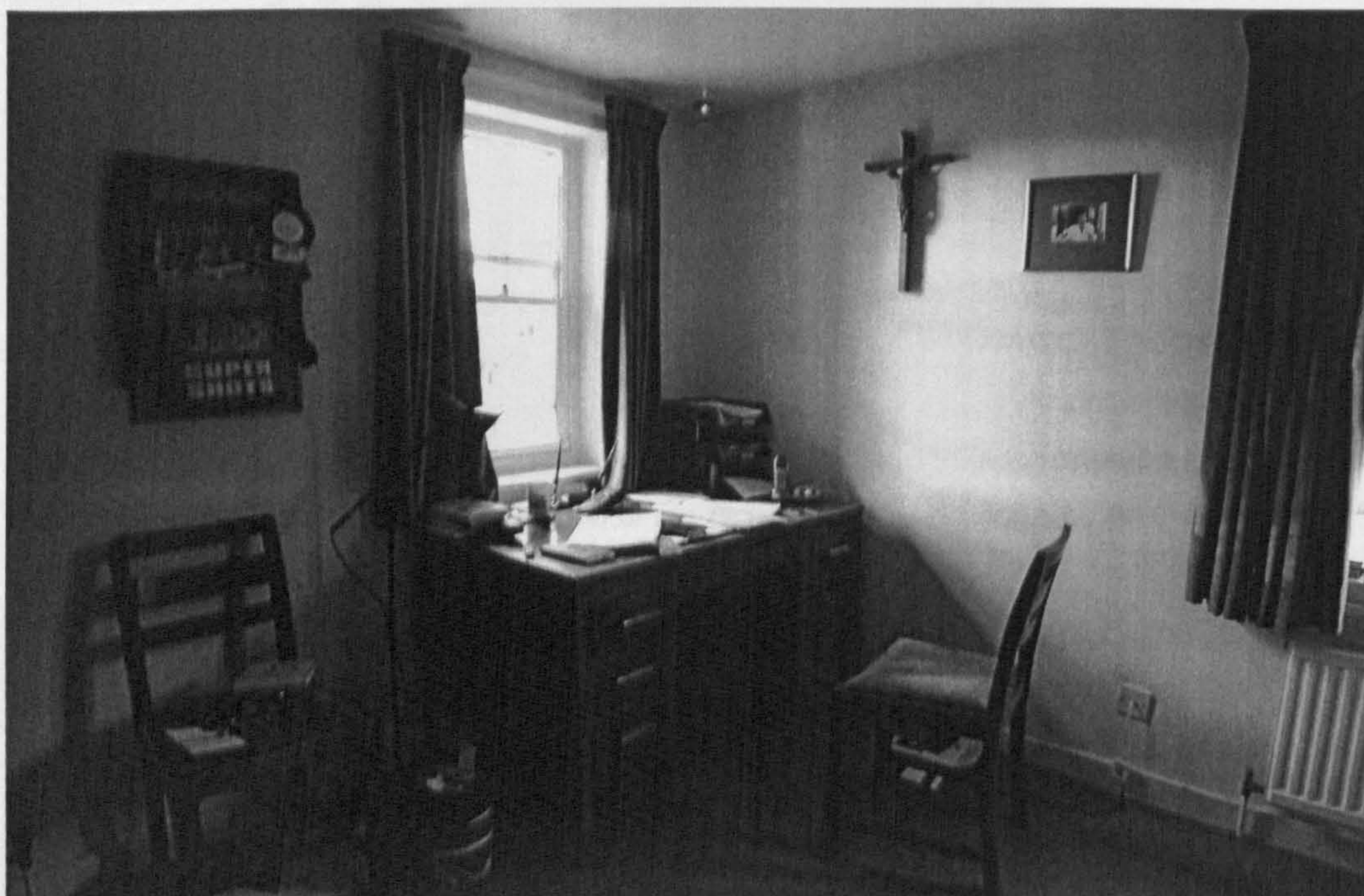


Figure 157: Curtain-maker's windowless garage workroom (LWS05)

Figure 158: Rector's study (LWR19)



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the door if I'm spraying, or using adhesive. I also have no ventilation to the bathroom." LW07

Other participants had insufficient natural light. The rector was particularly unhappy about this, as his rectory was a purpose-designed workhome built to a standard pattern. The two windows in his study were so small he always had to have artificial lights on when he was working. He commented:

"It's badly designed" [fig 158] LWR19

The building surveyor said he had insufficient daylight because his garden fence obscured the window (LW36). A number of other participants also said they kept their lights on all the time¹⁴⁸. One of the architects, working on the ground floor of his studio-house, commented:

"There is just enough natural light in the winter, but it gets bleak in winter. You can't spend too much time down there in winter; it's like being in a basement sometimes... but in summer it is great." LW26

In some cases the age of the property meant that small windows gave insufficient natural light. The nutritionalist commented:

"My 200 year old house has small windows. I always work by artificial light at my computer." [fig 159] LWR13

A number of participants had problems with their artificial lighting. One of the academics commented:

"The lighting's not great at night as the light is behind me. It [her study] doesn't work so well at night. The daylight is fine and I like the view, but the artificial light is not very good. This may be why I don't work much at night." LW06

Although many of the participants worked under fluorescent lighting, only one, the graffiti artist stated a positive dislike for them:

"I hate strip lights..." LW24

The artist with the mezzanine living space above his double-height studio, found that the lack of spatial compartmentation meant that the high level of natural light from the roof-light over his studio prevented him from sleeping, as it was not possible effectively to screen the mezzanine sleeping space [fig 151] (LW41). The photographer who inhabited the large work/live unit had shut off a central light-well into his ground floor studio because the light from the large south-facing roof-light had been both too bright to work with and uncontrollable [fig109, 110]. In its place he had installed a steel-gridded floor with loose-

¹⁴⁸ LWR01, LWR03, LWR11, LWR16

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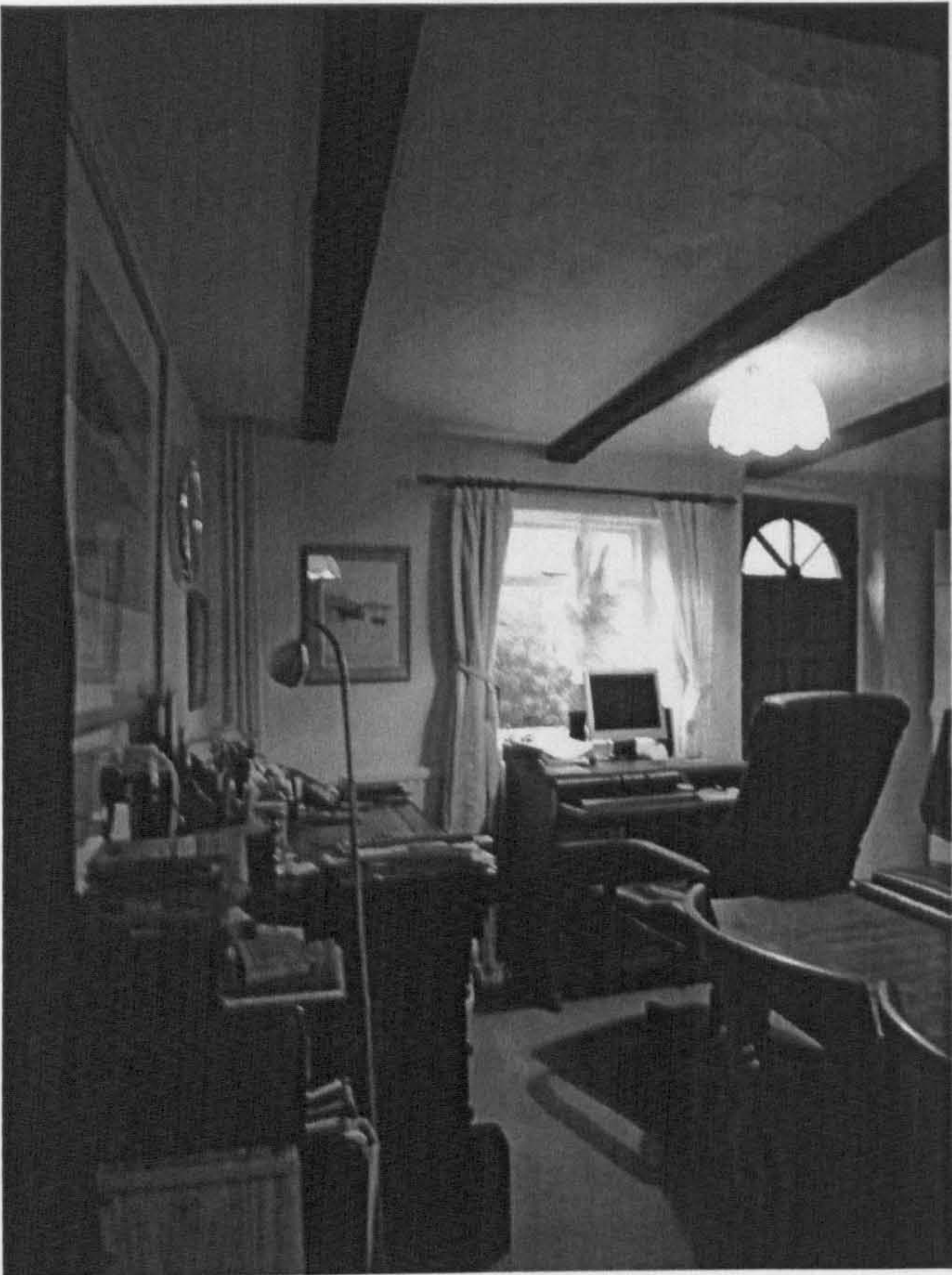


Figure 159: Small windows in a 200yr old house (LWR13)

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fitting plywood panels, so he could remove them selectively when he wanted to shoot from above or top light his subjects (LW35).

Three participants, the music teacher, one of the architects and the costume designer/maker, used lighting to transform their dual-use spaces from 'work' to 'home'. The architect said:

"I have good levels of natural light, but need to improve the [artificial] lighting, to make it softer. I don't continue [working] after everyone has gone in the evenings. I may have a drink locally, and then come back, and put different lights on, and music, and settle down for the evening. I have green lighting on the window cills, and use lighting and music to turn it into 'home'." LW45:

Similarly, the costume designer/maker said:

"I use fairy lights at night when friends or my boyfriend come round at night."
LW07

The music teacher turned the top-light off, and small lamps on, in order to help transform her music room into a living space at the end of each working day. She also made subtle changes to the furnishing of the room [fig 160, 161] (LW02).

Both natural and artificial light emerged as important issues for participants, although a number were prepared to work under poor conditions, either with little or no natural light, or with only fluorescent lights. A conflict arose between achieving high levels of natural light and preventing glare on the computer screen or sun in the eyes of the person working. There was also a problem with the electrical installation in many of the buildings studied.

Insufficient or incorrectly positioned electrical socket outlets meant that extension cables were in use in most buildings studied. The website designer had 30 electrical socket outlets in use in his living-room workspace in his flat, most of which were run from extension cables (LW25). The costume designer/maker had 13 fixed electrical appliances, plus a range of ancillary equipment that needed a power supply. Her industrial unit was littered with extension cables (LW07). One of the Baptist ministers had three double sockets, but still needed to use an extension cable with an additional four sockets (LW11). The other Baptist minister, LW17, with only two double sockets in his office, had a spaghetti of cables running from a number of extension leads. The curator placed her laptop neatly on the floor against the wall between her kitchen and dining room every night in order to charge it. One of the architects, inhabiting an open-plan live/work unit with three double electrical socket outlets, was ten short, the shortfall made up by extension cables. He said:

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Figure 160: Music teacher's music room (LW02)

Figure 161: Subtle changes turn it into a living room at night (LW02)



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"Theoretically there is a channel that runs around the edge of the unit, so I can put more sockets in, but once one has moved in..." LW45

Another architect had ten electrical sockets in use in the workspace of his recently completed studio-house, and an additional six socket outlets run from an extension cable (LW26).

The graphic designer's purpose-built attic studio incorporated more than 50 socket outlets, most of which were in continuous use. They did not use extension cables. The office ran four computers, three separate monitors, three task lights, three hard drives, a scanner, two printers, a CD writer and three phones, as well as a host of miscellaneous equipment such as phone chargers, radios, loudspeakers. It had been recognised during the design process of the new studio that a separate sub-main would be needed. The electrical installation ran behind the storage units below their continuous work surface [fig 105]. Prior to this they had operated from their spare bedroom, overloading their domestic electrical installation in a potentially dangerous way (LW04). The BT manager had installed four additional four-way electrical sockets in his dining room when he converted it into his workspace. When he decided to work at home, the IT specialist had re-wired his house with Internet cables, a separate telephone system and additional electrical socket outlets. A mass of cabling was hidden in a duct behind his purpose-designed 'home-office' (LWR10).

The interviews revealed that many participants inhabited buildings with inadequate natural light. The artificial lighting was often unpleasant. Their buildings also often had poor levels of acoustic separation to their neighbours, the outside world and even the spaces that housed their appliances. They also often had inflexible heating systems that meant participants had to choose between high bills or getting cold in the winter. The workhomes, with few exceptions, had inadequate numbers of electrical socket outlets, in some cases the use of extension cables led to potentially dangerous electrical installations. The importance of these issues was magnified because of the 24-hour inhabitation of the workhome. On the other hand, where the buildings worked well environmentally, this was a cause of great delight. The design of heating systems, artificial and natural lighting, and acoustics are issues that require particular thought in the workhome.

Many participants were anxious about issues relating to the governance of the workhome¹⁴⁹. One participant, an information worker who was not even contravening any regulations, said:

"I don't want to get caught out. I don't even want to ask as I don't want to

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fall foul of the regulations.”

Participants were often nervous in their responses to questions about planning permission and their workhomes. People were revealed living ‘inconspicuously’ in B1 properties (“we hid the bath when the planners came”), while others worked ‘inconspicuously’ in dwellings for fear of being ‘caught’. Participants had received planning permission for workplace additions to their dwellings as ‘spare bedrooms’ (“... it’s a residential area, we didn’t think we would be able to get commercial use”), while others had reassigned their live/work units as residential in order to reduce the outgoings, despite the fact that they worked there more than 40 hours per week. One participant inhabited a building that had live/work planning permission:

“That’s why we bought it, I always wanted to work from home.”

However they had been accused by the local authority of contravening the planning permission by using the unit for purely residential purposes. In reality the participant was in part-time home-based work. Those using live/work units for their intended use had neighbours who used their live/work units both solely as dwellings and solely as workplaces. Very few participants either understood the system or were abiding by it. Just one had had the industrial unit she inhabited assessed by the Valuations Office Agency (VOA) as a composite hereditament¹⁵⁰, and had then had it re-assigned as a live/work unit by the planning department. She paid the correct combination of business rates and council tax.

There was a similar level of confusion over local taxation. One participant was inhabiting commercial premises, and paying council tax (the VOA inspector had not realised they also worked there). They had no refuse collection:

“It’s really difficult, because we are paying council tax, but maybe shouldn’t be paying council tax, so we don’t want to say too much...”

As a result there was a large pile of refuse outside their front door [fig 162]. Another paid business rates throughout, because the VOA inspector had not realised they lived there as well. A number of shopkeepers were irate at what they saw as double taxation on their composite hereditaments. One commented:

“I think it is a rip-off paying both business rates and council tax... most of the services are duplicated, police, fire, ambulance, road sweeping...”

Another concurred:

“It is ridiculous [paying business rates downstairs and council tax upstairs]...”

¹⁴⁹ For this reason, all quotations have been de-personalised in this section

¹⁵⁰ This is the Valuations Office Agency class for buildings that combine dwelling and workplace. The definition of a ‘composite’ hereditament [an item of property that can be inherited, Concise Oxford Dictionary] is contained in S.64(9) of the Local Government Finance Act 1988. It provides that: “A hereditament is composite if part only of it consists of domestic property”



Figure 162: Uncollected refuse

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it amounts to double payment for local services... basically council tax and business rates are supposed to be providing the same services, for what we pay for the flat upstairs, and the business rates, and we have to pay extra for refuse collection, and it just doesn't make sense, the council is just making extra money out of us... The council are aware... the flats above shops on council estates they still charge double, just like us..."

Another participant did very little work outside his workroom, but allowed his daughter to use one of the computers for her homework, had their annual Christmas dinner for 15 in there, and used it for drying laundry and the storage of items from the rest of the house, so they would not be liable for business rates on the room.

The business rates/council tax conundrum emerged as an important issue for the home-based worker. In addition there were a number of minor practical issues relating to the workhome that were an irritant to home-based workers. Many participants spoke about a lack of clarity or consistency about the provision of utilities and other services to their workhome. Many were incensed at having to pay commercial rated utilities throughout their workhome. In one case water was charged at the commercial rate in a shopkeeper's flat above their shop...

"...because even if you don't have a WC downstairs in your shop, you still have to use it during the day, don't you?"¹⁵¹.

Often electrics were found to be on a single circuit, charged at the commercial rate throughout.

A number of participants spoke of the wasted resources involved in having two separate weekly refuse collections (one commercial, one domestic) to a single address. Some refused to pay the additional charge for commercial refuse collection and disposed of the rubbish themselves, often burning it. By contrast, one participant who produced large amounts of commercial waste had it collected as part of the weekly domestic service. The school caretaker reported that both his refuse collections and mail deliveries were suspended during the school holidays, which led to maggots in his bins and Christmas cards received in January. Other participants, particularly shopkeepers, spoke of the problems of receiving deliveries in areas with residential parking schemes. One reported that his milkman regularly received parking tickets.

Many of the 'inconspicuous' home-based workers spoke of the increased insurance costs that they would incur if they 'owned up' to running a business from their homes. One live/work unit, designed to have a separate entrance on different streets for the dwelling and the 'workplace' elements, and therefore two addresses, spoke of difficulties encountered

¹⁵¹ Reported conversation with Thames Water in an interview with a shopkeeper

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with being charged twice for utilities and her TV licence.

The governance issues raised by the participants help to explain the low profile of the home-based workforce. So do the conditions of leases and tenancy agreements to which some participants were subjected.

One participant's lease said she could not run a business, but as she was a freeholder and friends with the other freeholder, she was not bothered. A social housing tenant produced a tenancy agreement that included the following clause:

"Use of Premises: To use the premises for residential purposes only and not to operate a business at the premises, and not to use the premises for any illegal or immoral purpose."

As a consequence this young, black entrepreneur operated as part of the invisible home-based workforce. He did not advertise his business, except on the Internet, and then hid his location. He did not use his address on any of his material. Another participant, a registered childminder, lived on a large social housing estate run by a well-respected housing association. Approaching retirement age, she had decided she wanted to spend the rest of her working years looking after children in her home rather than continuing to work in a care-home for the elderly. Once she had acquired the necessary qualifications, she applied to her registered social landlord (RSL) for permission to work as a childminder in her flat, because her tenancy agreement included the following clause:

"You must get our written permission before you can run a business from your home. We will not withhold permission unless we have a good reason. We will refuse permission if the business would cause a nuisance to or annoy neighbours, or damage the property. We may withdraw our permission at any time if we have good reason. We will let you know why."

They wrote back and refused permission, without giving any reason, but...

"...because I went to school..."

...she wrote back to them, stating that her tenancy agreement said she should be allowed to, unless they had a good reason to prevent it. She said that it was...

"...Government approved to get mothers back to work, and refusing her permission was going against the government..."

The RSL, in a second letter, gave her permission so long as she did not cause any problem to the neighbours. She replied saying that she had been there 18 years and had never caused any trouble to the neighbours. She said she was the only registered childminder on an estate of more than 1,200 homes. She was aware of dozens of other women on the estate who were childminding informally, largely as a result of the correctly perceived threat that they might be refused consent to work at home.

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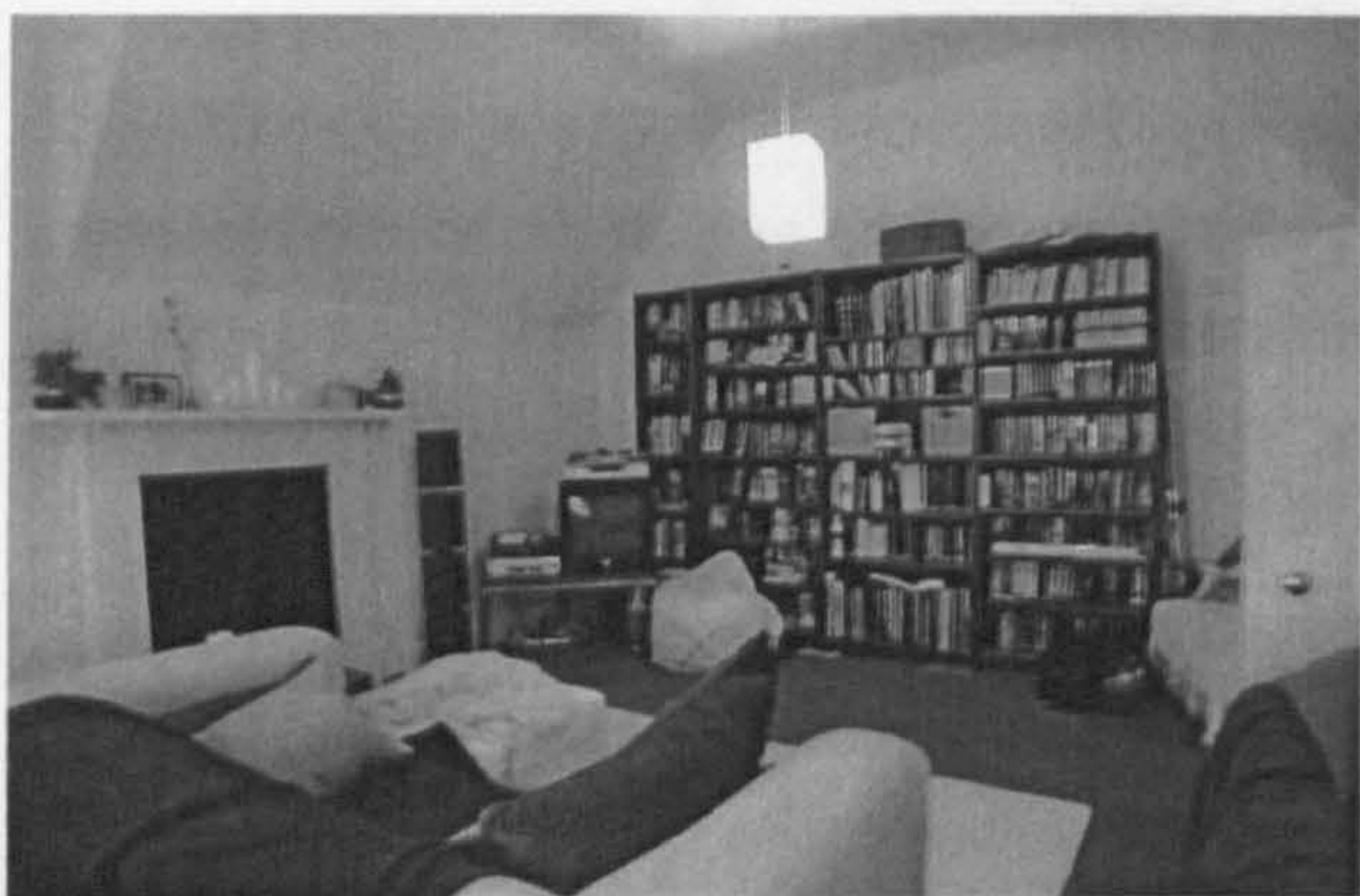


Figure 163: National Trust historic house manager's private sitting room

Figure 164: Residential care-worker's private sitting room



There appears to be a direct relationship between the 'inconspicuous' nature of some home-based work and the conditions of some leases and many tenancy agreements. By contrast, participants inhabiting tied accommodation tended to present the 'visible' aspect of the practice.

A number of participants inhabited accommodation that was provided rent-free as part of their pay¹⁵². The quality of the accommodation depended on the employer. The National Trust provided a large apartment in good repair, well decorated, with provision for cyclical maintenance and free heating thrown in [fig 163]. The care-worker had a similar arrangement. Her accommodation was spotless [fig 164]. The primary school provided a large house in poor state of repair and no provision for cyclical maintenance. The caretaker was responsible for the internal decoration and the bills. One of the publicans was undertaking major renovation to his accommodation at his own expense.

All the participants in tied accommodation considered the advantages to the arrangement outweighed the disadvantages, despite the fact that they were all going to lose their accommodation when they retired. A number, including the rector (LWR19) and the school caretaker (LW15) had made provision for their retirement by buying a house on a 'buy to let' basis. They planned to move into this house when they retired. The care-worker had put her name on the council housing list and expected to be re-housed when she retired (LWR20). Only one of the Baptist ministers expressed anxiety about his retirement. The Baptist church had insufficient houses to let to retired ministers, so he was uncertain he would be provided for. However he was expecting to inherit a house before he retired (LW17). The funeral director was young and not thinking about such matters. He had, as yet, no provision for his retirement. He enjoyed inhabiting a large maisonette that would be outside his reach if he had to pay for it (LW14). Other participants echoed this (LW15, LWR19, LWR20). Both the care-worker and one of the publicans had been in tied accommodation all their adult lives, moving from one such situation to another.

Home-based workers in tied accommodation are vulnerable because they are made homeless when their employment ends. In addition the standard of accommodation can be poor. However, almost all the 'live-in' participants had made provision for their retirement, and in general the accommodation provided was to a high standard.

¹⁵² LW11, LW14, LW15, LW17, LW30, LW37, LWR11, LWR19, LWR20

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The governance of the workhome is in disorder. Despite this, a substantial proportion of the working population of England continues to work from home or live at their workplace. Planning and local taxation systems have not been designed to govern this building type, with its hybrid functions, effectively, while leases and tenancy agreements try to outlaw the working practice. This helps to explain the low profile of the contemporary home-based workforce. The process of investigating the buildings that accommodate home-based work has so far involved looking at spatial, environmental and governance issues. In the next section urban issues are discussed. Participants' views about the impact of home-based work on their neighbourhoods reinforced the importance of resolving these governance issues.

The uncovering of a 'new' building type with hybrid functions inevitably raises urban issues. The conventional system of zoning for regulating land-use, theoretically put in place to separate incompatible uses, is undermined by the infiltration of both 'residential' and 'employment' zones by the workhome. Participants spoke of the consequences of this. Many said that their 24-hour presence made a positive contribution to their local neighbourhood. The mechanic working in a mixed-use area said:

"...no-one is bothered about what I am doing... in a totally residential area they would have a very different attitude... loads of people come round to get their cars fixed. I work with the doors open so I get to speak to all the neighbours..." LW12

The BT manager said that he had his neighbours' keys and took parcels in for them during the working day. The fish and chip proprietor commented:

"...some people might say you get too well known, everyone knows you if you live and work in the same place. That doesn't bother me. I think it is very beneficial of the local community... it depends on your personality, lots of people like to keep themselves a bit private when they are away from work."
LWR03

The furniture-maker's domestic partner (who was taking a break from working in the business while her two children were small) commented on the difference she experienced living on the industrial estate compared to the residential area where she was before:

"I'm much happier here [industrial estate], and I think it is because in a place like that [residential area], that is completely residential, you feel a bit more isolated unless you make a huge effort to do something with your children. Because it is residential, everyone there has gone to work... whereas living here, everyone comes into work during the day, we all know them and they all know us, it's a lot better for me... to have that sort of atmosphere around me... I don't even have to make a big effort, I just go out and there are two or three people you just say 'hello' to. We live in a work environment, I think it's almost healthier. In one part of [residential area] there are five or six streets of middle-class young families, and not much else, so all you see, as you push

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your pram, is other young middle-class mothers coming towards you. It's completely deathly quiet, there's no other kind of atmosphere going on."

The architect with the mews-style office said:

"Another point about live/work is that it creates and supports a mixed economy... I can think of at least four other people who live and work around [xxxxxxx] Square in addition to ourselves and [neighbours] all of whom go to the local shops, go out to eat at lunch time, have clients coming to the area, use the public spaces and public transport throughout the day. It is an ideal urban model in the Jane Jacobs sense that there is integration between different activities bringing life [into the area] throughout the day which impacts economically and socially. It means also that I can stay involved in various local community and school things that would be difficult to get to if I worked in a separate place. It seems to me that more people are working from home now in this local area than ten or even five years ago, and this definitely has an impact on the quality of life and urban spaces." LW08

One of the Baptist ministers said:

"There is a real benefit to society of such tied housing... the location is very important. It has to be within walking distance of the church. We ministers are 'incarnational' in the ministry... flesh made tangible. Touchable." LW11

One of the aspects of her work was to support members of her congregation, and to build a sense of community. One of the shopkeepers said:

"I've been here 21 years, I know everyone who comes in; I talk to everyone..." LW19

Despite being in an inner city locality, this shopkeeper was conscious of the social importance of his shop in his neighbourhood. One of the publicans agreed:

"We meet so many different people, often with very interesting lives... such as musicians ... they bring their lives into the pub, and that enriches ours. We get to know people and carry out lots of social functions, for example filling in forms, acting as mobility drivers. Sometimes we have social services and care organisations that come in and use us as a go-between, as they know we will see [elderly person], and can tell them if they have been out in the day. We form a central hub in the community... we know everyone, or their mum, or whatever." LW37

The gallery owner and motor engineer also consciously played a social role in their local community. They considered it underpinned their Christian faith:

"...[xxx] can spend a whole day listening in the shop... her's is a very social role, people come in for a coffee, or to use the WC. We see it as a social service ...the fabric of life has broken down, people have no support. It's a privilege for us to be able to do it... most people don't. People come into the shop to buy something, but also come in for an hour to natter. It's a very valuable aspect of a village. You can have an over-public profile... one ten minute chat is OK, but 15 isn't..." LWR22

"I am a Baptist, and this social function underpins my faith. One [picture framing] customer can provide enough work for a week; a third just come in for a chat. I am busy 30-40 per cent of the time the shop is open." LWR06

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The writer/ editor commented, more ambivalently:

"I'm at the mercy of everyone, my child, the builders, people trying to sell you things. I do feel more part of the local community, however, I walk the dog every day, and get to know people and find out what's going on." LW20

A number of participants used spaces outside their workhome as satellite workspaces. The writer/psychotherapist said she occasionally felt a bit claustrophobic, as if she needed to go out to work, and she would then go to a local café and work (LW44). The social policy researcher took her laptop to the café in her local park when she "got stuck" with her work, and found that the change of scene "un-sticks" her. She said:

"I couldn't do that if I was working in an office... but I do suffer from residual guilt when I do, as if it isn't 'proper work'... I think 'what am I doing sitting in a café'... I also take the laptop to the Leisure Centre while my daughter does gymnastics for two and a half hours on a Saturday morning. It is a fantastic opportunity to work as I am completely uninterrupted." LW01

One of the academics also used spaces outside the home for work:

"I travel to [university city] to work maybe three days a fortnight... and write most of my articles, papers on my laptop on the train, two hours and 20 minutes each way... it is protected time. I have a very good switch-off mechanism... I also go to the gym on the bus... and treat the whole excursion as work, it is 'thinking time'." LW06

The curator used local cafes a lot for local meetings...

"[xxxx] is a classic work café... I go there at least once a week. It's good for the local economy..." LW21

The managing director of the manufacturing company had weekly or fortnightly trips to meet his business partner at [city] Cathedral Refectory, which they considered to be their "unofficial boardroom", to sign cheques and go through design models and suchlike. His partner, in his 70s, was also a home-based worker, working in a shed in his garden in [suburban town]. The Cathedral Refectory was the halfway point between their workhomes (LWR15).

For some participants, personal security was a primary motive for home-based work, especially where the nature of the work involved regular tight deadlines, and the need to work irregular hours:

"Because of the nature of the business [costume maker], working here [purpose-built live/work unit] just gives me that sort of flexibility, you can do an extra hour in the evening and it doesn't feel quite so painful as you haven't got to go home... I used to have to leave [xxxxxxx] Street often very late on my own and that was simply unsafe... that used to put me off working very late... I would never do an all-nighter at [xxxxxxx] Street... I'd start feeling iffy about working after 10pm, whereas I can quite happily do until midnight here if I have to...." LW10

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The costume designer /maker agreed:

"My work is almost always time-urgent... I can be working all night... [with this set up] I don't have to worry about travelling through Hackney at three o'clock in the morning." LW07

For others an essential part of their work was to provide security to the building in which they worked. The historic house manager commented:

"The primary reason for living-in is the security of the house. I have lived in three National Trust properties before; it's an arrangement I like. All National Trust properties have a live-in manager." LW30

The school caretaker added:

"We're very lucky here, we don't have many problems... because we have someone on site it does deter people from breaking into the building, and if the school is broken into, or in the case of leaks, fires, I have a fast response time..." LW15

Some participants also remarked on the importance of overlooking the street. An architect inhabiting a self-designed studio house commented:

"Up there you have this big window, and you are very much in contact with all the street life [fig 144], and if anything happens I hear it, and you see things; sometimes if a bike is nicked they will come and ask me if I have seen anything as I have the biggest window. We have a major presence on the street... loads of people do see us working from the bus. It was deliberately designed so we can see and be seen. I didn't want to be the guardian of the community, but I've never felt so much a part of the community as I do here, and it is partly because I am so aware of everything going on. Also because people watched the house going up, they are aware of me and who I am... There are always little accidents here and I'm always writing down number plates..." LW43

One of the illustrators said:

"There is a bus stop outside [fig 162] ... people behave badly. I go out and confront it... I see it all." LW38

One of the academics noted:

"When we first came here car-break-ins happened a lot, they don't happen so much any more [fig 165]..." LW28

One of the licensees commented that her pub overlooking an empty site had prevented the area from becoming a no-go zone (LW37).

The security of their own workhome was an issue for a number of participants. The BT manager had positioned his office at the rear of his house and had installed a high level window, so his equipment was not on show (LW18). One of the architects had been advised by the Local Crime Prevention Unit not to put up a nameplate or anything advertising his presence, for similar reasons (LW23)¹⁵³. Two of the architects' studio-

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Figure 165: Academic's desk in his second floor bedroom, overlooking the street (LW28)

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houses were part of a gated community, which created a filter to visitors (LW26, LW40). The musician/events organiser had built his workspace with a large roof-light, wanting high levels of light but also mindful of security for his studio full of valuable equipment (LW27). The classical musician had also put blinds at her windows onto the street so people on the street could not see her instruments (LWR04). The fish and chip shop proprietor was a bit concerned that the arrangement of his entrances meant that he had to go out into the street with his takings each night [fig 124] (LWR03). The rector felt "constant anxiety about who will turn up". He had a chain on the door, a panic button, and lockable door between his house and his study, but had never used them [fig 117]. He said:

"Drug addicts often hang out in church porches. I have lights on the pathway to my home and am increasingly aware of danger ...It's not like a private home, it's very public. My home address and phone number is published in the parish magazine, and people know where to find me. Security is a big issue. I have constant anxiety about who will turn up." LWR19

The residential care-worker was similarly concerned, locking up at 5pm and not answering the door if anyone knocked after that as she said she did not know who it might be, and did not have a peephole in the door (LWR20). One of the publicans was...

"...very conscious of fire safety... we installed heat detectors after a local pub fire; at all times we leave the back door open I'd rather have an intruder than be trapped in a building on fire. We have a fire exit upstairs onto a flat roof and out into a yard... fire takes precedence over security. We keep the keys at the bottom of the stairs and have drilled the family on how to get out..." LW37

By contrast, in the industrial building inhabited by the graffiti artist and one of the photographers, the inhabitants left their doors unlocked, allowing people to come and go at will [fig 166]. The bed-and-breakfast provider similarly said:

"We are very free and easy... we try to make people feel welcome... otherwise it is too much hassle for us. There has never been an issue of security. If you don't give people a key you have to be there all the time... we would rather have the freedom of movement and trust people." LWR09

The baker also said that they never locked the door to the bakery (LWR12), and the IT specialist said that although his name and address was in the local parish magazine and the Yellow Pages and he chained his laptops, he did not really worry about security (LWR10).

¹⁵³ This architect ran a busy practice with three employees, but his practice was deliberately not visible from the outside. He did not want to advertise the fact that there was valuable equipment on the premises. Yet LRR, in their report to LBH (see LONDON RESIDENTIAL RESEARCH 2005, Review of Live-Work Policy in Hackney). London Borough of Hackney, regarding the future of live/work accommodation in Hackney produced a lack of name-plates and signage as evidence that live/work units were in purely residential use in Hackney.

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Figure 166: Industrial building inhabited by graffiti artist, photographer and carpenter (LW24, LW33, LW34))

Many participants commented on the positive impact the 24-hour nature of their inhabitation had on their neighbourhood. Streets watched were considered to be safer. It also meant, for a number of people, that late-night working did not end with a potentially dangerous journey home in the middle of the night. For some, a component of their job was to ensure the security of their building. This had a spin-off on the local neighbourhood. On the other hand, maintaining the security of their building and valuable equipment was a problem for some participants, raised as an important design issue. A number of participants used local businesses or facilities as 'satellite' workplaces. The local economy was supported both by this and by their use of neighbouring businesses, and also by the people their business brought into the district. Participants also commented on being well-known in their neighbourhood because they were home-based workers and this resulting in a friendlier, more sociable, and safer area. They were also able to get involved in their local community in a way that would have been impossible if they had been working at a distance from their home.

Chapter conclusion

The interviews have provided a wealth of information about the home-based workforce, the contemporary practice of home-based work, and the associated building type. This achieves the second aim of this thesis, an exploration of the contemporary manifestation of this apparently 'new' building type. Casting off stereotypes, the practice has been shown to operate across a wide range of occupations, with a workforce that consists of men and women of all ages from diverse socioeconomic and ethnic backgrounds. The buildings this workforce inhabits, both 'as found', adapted to the dual function, and purpose-built, have been shown to be similarly diverse. They range from contemporary, stylish, carefully composed purpose-built studio-houses to dilapidated nineteenth century warehouses, and incorporate often ignored examples such as the funeral parlour and rectory. The participants' practical observations about their buildings, their spatiality, environmental performance, governance and urban context, provide information that, once analysed, will make a contribution to the debate on architectural solutions and governance policy for this building type.

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Chapter Five: Developing new typologies

The mass of interview and survey data in the previous chapter fulfilled the second aim of this thesis: to explore the contemporary manifestation of the workhome. However each interview revealed a unique combination of household, occupation, space, and built form. Further analysis was needed in order to be able to generalise from this material, and therefore to fulfil the third aim of the thesis: to make a contribution to the debate on architectural solutions and governance policy for this building type. In order to achieve this, a series of user-groups and three building typologies have been developed from the contemporary data.

The participants: user-groups

In the previous chapter, a breakdown of the participants was made, in terms of their age, gender, ethnicity, caring responsibilities, 'visibility', industry, occupation, employment status and proportion of household income derived from home-based work. When tabulated, this large number of variables made it difficult to discern patterns [see fold-out drawing no. 1 (variables relating to participants), located at the back of Volume 2: The Appendices]. However, during the fieldwork a number of different groups of home-based workers emerged, based on participants' motivations for working from home. These included caring responsibilities, financial circumstances, the nature of the occupation, and the relationship of the occupation to society [see Appendix 12]. An analysis of these identified nine different user-groups of workhomes in the sample.

1. 'juggling parents'

The largest group, involving more than a quarter of the sample, consisted of 'juggling parents'. These people worked at home so they could be with their children. Almost equally men and women, most were self-employed, working across a range of occupations, from childminder to building surveyor.

2. 'backbone of the community'

The second largest group, involving a fifth of the participants, was the 'backbone of the community' group. These were all visible, well-known members of their local communities, including shopkeepers, publicans, clergy, a funeral director, a garage proprietor, a school caretaker, a fish and chip shop proprietor and a baker. Half were involved in family enterprises, but most had no caring responsibilities. A disproportionate number came

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from the rural sample.

3. 'professionals'

The next largest group, two-thirds of which was male, consisted of 'professionals', including the architects, a photographer, the music teacher, the translator, the IT specialist and two alternative health-care practitioners.

4. 'obsessive artists'

The next largest group was 'obsessive artists'. All part of the urban sample, the common trait was a preoccupation with work that over-rode 'normal' working hours or lifestyle. This group included two painters, a costume designer/maker, two illustrators, a graffiti artist, a photographer and an artist working in mixed media. Three-quarters of the 'obsessive artists' were 30-39 years old, and none had any caring responsibilities.

5. 'top-up'

The next largest group was the 'top-up' group, whose home-based work supplemented a low household income from elsewhere (five from state benefits and two from low salaries earned outside the home). All except three were operating in the informal sector.

6. 'craft workers'

The next group consisted of home-based 'craft workers', including a furniture-maker, a costume-maker, a mechanic, a carpenter, a caterer/preserves maker, a plumber and a curtain-maker.

7. 'live-in'

This group included the employees who were paid to 'live-in', the school caretaker, the manager of a National Trust historic house and the residential care-worker.

8. 'start-up'

The penultimate group, of only two participants, consisted of 'start-up' businesses.

9. 'student'

In addition there was a single 'student'.

In some cases participants could be placed in more than one group; for example, one of the juggling parents was also an obsessive artist. They were subsequently categorised by the dominant trait that emerged when interviewed. When simplified, this series of user-groups clarifies three basic relationships between these home-based workers and

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Figure 167: BT manager's workhome (LW18)



Figure 168: Entrance to industrial building inhabited by 3 participants (LW24, LW33, LW34))

their situation. The first is home-based work as a life-style choice ('juggling parents', 'professionals', 'obsessive artists' and 'craft workers'... just less than two-thirds of the sample), the second is home-based work as an essential component of the job ('backbone of the community', 'live-in'... a quarter of the sample), and the third is home-based work as an economic necessity ('top-up', 'start-up' and 'student'... an eighth of the sample). Without more evidence, it is not possible to conclude that these user-groups are universal, but this analysis may be useful in conceptualising different types of workhome. It highlights the confusion inherent in the London Borough of Hackney's Live/Work Supplementary Planning Guidance (1996) that stated:

"3.1 Floorspace: ...No more than two bedrooms should be included in each unit, as live/work uses are not considered suitable for family accommodation, especially when they are located in Designated Employment Areas... The workspace needs to be capable of accommodating the whole range of B1 uses, including light industry. Easy access for bulky goods and materials must be provided with double doors (2m width) to work areas."

Their 1999 Policy Guidance for Live Work Uses also recommended that

"2.3 Design: ...duplex units with lower floor work space and an upper or mezzanine floor as living space provides the ideal configuration."

A lack of understanding the overall field of home-based work led to spatial prescriptions that provided inappropriate accommodation for most home-based workers.

The home-based workers in the sample may be categorised into nine groups, according to their dominant reason for engaging in the practice. In some cases this relates to particular economic pressures (i.e. 'top-up' and 'obsessive artist'). In other cases it relates to the need to care for dependants, or the nature of the job (i.e. 'juggling parents' or 'live-in'). A number of these categories have radically different spatial and environmental requirements. They reveal three underlying conditions, home-based work as a life-style choice, as an essential component of the job, or as an economic necessity. The recent 'live/work' movement has tended to focus only on the first of these.

Types of building

The buildings, like the people, were diverse, ranging from a modern detached 'Barratt' style executive house to a dilapidated nineteenth century industrial unit [fig 167, 168]. Again the challenge was to make sense of this. Half the sample consisted of dwellings that were also being used as workplaces. Nearly a tenth were industrial buildings in which people both lived and worked, while the rest were purpose-built hybrid buildings, either historic or contemporary.

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Figure 169: Terraced house workhome of social policy researcher (LW01)



Figure 170: Public house workhome of licensee (LW37)

A plan was drawn of each building at the scale of 1:200. This was then abstracted into a diagram representing the function of each space: a) 'dual-use, living and working, space' (coloured red), b) 'dedicated living space' (coloured blue) and c) 'dedicated working space' (coloured green), as well as circulation space [see fold-out drawing no. 2: raw data, located at the back of the document]. This drawing demonstrates the variety of buildings in the sample, in terms of size, form and the way they were inhabited.

The buildings functioned in a number of different ways, and three typologies were developed as tools for understanding this, developing the work of Gurstein and of Dolan. The first categorises the workhomes by the dominant function of the building, a distinction emerging between participants who lived at their workplace and those who worked in their homes. A number of distinct formal types emerged from the buildings studied. The intention was to identify typologies that could be applied universally.

Building Typology no. 1: Dominant function

[Please read with fold-out drawing no 3, located at the back of Volume Two]

Dolan's focus (2001) was the purpose-built 'unit'. In this thesis, this is only one element in a much larger overall field. The distinction he makes between 'home-occupation' and 'live/work', both of which prioritise the dwelling function, has been interpreted in this thesis as a distinction between models ('spare room in a house' on the one hand, versus 'purpose-built live/work unit' on the other), rather than types. This returns to Quatremere de Quincy's distinction between the 'model' and the 'type', where...

"The 'model', as understood in the practical execution of art, is an object that one must repeat such as it is. The 'type' is, on the contrary, an object from which one can conceive works that do not resemble each other." ¹⁵⁴

This thesis aims to develop typologies that may be applied to all models of workhome, whether live/work or work/live units, dwellings with people working in them, workplaces where people live, shops or pubs with living accommodation above, houses with a studio at the bottom of the garden etc.

Analysis of the sample according to the essential distinction between 'live/work' and 'work/live', a refinement of Dolan's work, resulted in 42 'live/work', and 17 'work/live', premises. The 'live/work' category included all the participants who worked in buildings where the dwelling function was dominant [fig 169]. These included flats, houses (detached, semi-detached and terraced), cottages, a bungalow and a live/work unit¹⁵⁵. Some of them

¹⁵⁴ See Chapter One

¹⁵⁵ The terms used in this section are those the participants used to describe their workhome

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Figure 171: The equal status workhome: shop and house have front doors onto the street (LWR06)

incorporated purpose-built working space, some used a spare-room and some worked in their living rooms or on the kitchen table. The 'work/live' category included all the participants who inhabited buildings in which the workplace function was dominant [fig 170]. These included industrial units, live/work units, work/live units, a funeral parlour, two pubs, a pub converted into a mechanic's workshop, a manager's apartment within a historic house and a care-worker's rooms in a residential care-home.

Seventeen of the buildings, however, did not fall into either category, but consisted of workhomes where the 'dwelling' and 'workplace' elements of the building were of equal status. An example of this was the gallery and framing workshop adjacent to a family house, each with a separate, and equivalent, entrance onto the street, and with an internal linking door [fig 171]. The category 'equal status' was therefore added to Dolan's 'live/work' and work/live' categories, to create a typology for workhomes according to their dominant function. At this point the terms 'live/work' and 'work/live' were, themselves, shed. These name-tags were effective in drawing attention to the loft movement, but bring with them problematic associations. They also do not effectively define the different types of workhome, by dominant function. 'Home dominant' and 'work dominant' have been used in their place.

1.	'Home dominant' workhome	Dwelling function dominant	42/76
2.	'Work dominant' workhome	Workplace function dominant	17/76
3.	'Equal status' workhome	Dwelling and workplace functions are of equal status	17/76

Table 5: Building Typology No 1 - Dominant function

All the workhomes in the sample 'fit' this typology [see fold-out drawing no 3]. The types are also visible in the historical examples. Silas Marner's cottage, for example, with the loom dominating the main space, could be classified as 'work dominated', while it is probable that the elegant master-weavers' houses in Fournier St, Spitalfields, with journey-men weavers working away in the attic loom-shops, would have been 'home dominated'. The rectory adjacent to the church provides an example of an 'equal status' workhome. A wide range of workhomes outside the sample has also been tested against this typology. It appears to be universally applicable.

A lack of understanding of the distinction between these types has led to a great deal of confusion in the London Borough of Hackney (LBH), where more than 1,000 live/work units were awarded planning permission between 2000-04 (London Residential

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Research, 2005 p67), with the expectation that the work function would be dominant, but without this being explicit. These were often inhabited by people such as part-time photographers or information workers, the residential use being dominant. They (rightly) paid council tax, and not a combination of council tax and business rates. However, as a result, LBH planners came to the conclusion that the whole 'live/work movement' was a scam to enable developers to profit from the conversion of light-industrial land to residential¹⁵⁶. LBH had conceptualised work dominated workhomes, but had insufficient understanding of the overall field to be able to distinguish between the one they wanted, 'work dominant' and the one they did not want, 'home dominant'.

In some recent developments, such as the ACME work/live units in Orsman Road, London (Thorne, 2001) and the Peabody Trust live/work¹⁵⁷ units at Westferry, London (Smit, 1999), this distinction has already been recognised. In these schemes the 'work' aspect is dominant, (and therefore, in LBH planners' terms these are 'successful' developments). Others, such as [two Hackney live/work developments¹⁵⁸], largely have a dominant 'residential' use, their home-based working inhabitants having clean, space-efficient occupations such as web-site design. These are 'home dominated' units when classified according to their dominant use. The majority of the occupants of these buildings do work at or from home, but in a non-dominant way. Although in LBH terms these are 'failures', in reality they are successful developments of workhomes, servicing one particular element of the home-based workforce.

This analysis identifies important differences between these three types. The general adoption of this typology could contribute to the development of more appropriate designs and governance mechanisms for the three different types of workhome, 'home dominated', 'work dominated' and 'equal status'. This could stimulate both the acceptance of the practice, and the development of the workhome as a building type.

Building Typology No 2: Spatial design strategy

[Please read with fold-out drawing no.4, located at the back of Volume Two]

In Gurstein's "space configurations" typology (based on empirical research, published and developed in her doctorate and in two subsequent books), the concepts 'dominant function' and 'spatial separation' are elided, architectural solutions being proposed for

¹⁵⁶ Meeting with Peter Heath and David Hare, LBH planning/ economic development officers 31.08.05

¹⁵⁷ A lack of clarity about terms means this work-dominated scheme has been called a 'live/work' development by Peabody Trust

¹⁵⁸ The names of these two live/work developments have been omitted to protect their inhabitants. LBH considers that, because the inhabitants of these developments are not paying business rates, this indicates that they are not home-based workers and therefore the developments are failures.

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each of the four resultant types. In this thesis a number of design strategies, achieving different degrees of spatial separation between the dwelling and workplace elements of the workhome, has been found for each of the categories of dominant function. As a result a separate typology is considered necessary.

It is not clear whether Dolan's work is based on Gurstein's or not. He neither acknowledges it nor provides references for the research or practice on which his typology has been based. However his second typology provided a useful starting-point for the development of a typology of spatial design strategy for workhomes in this thesis. When applied to the sample, it became clear that his idea of three degrees of spatial separation - no spatial separation, a degree of spatial separation and total spatial separation - was substantiated. However the issue that emerged was how these should be conceived, and therefore defined. It was found that Dolan's type 'live/nearby' stood up. A number of the premises consisted of dwellings with detached workplaces, separated by a short walk. But the range of properties in the sample did not appear to conform to his other two categories, in part because Dolan's categories seemed to confuse the concepts of 'type' and 'model'.

An analysis of the sample revealed that the critical spatial difference between the two further types was the number of entrances they had from the street. Two types emerged, one with a single entrance, the other where the dwelling and workplace elements were contained in adjacent compartments, with separate entrances onto the street. A number of models conformed to the first type, including both the 'double-height studio with mezzanine' model, and the 'workroom in the spare bedroom' model. In many cases of the second type there was an internal linking doorway enabling direct movement between the two compartments.

As a result, Dolan's categories have been adapted. 'Live-with' has been retained as a category, but redefined, and the category 'live-adjacent' has replaced Dolan's category 'live/near'. To sum up:

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Live-with	Workhome in which dwelling and workplace elements are contained in a single compartment with a single entrance i.e. studio with mezzanine, or spare bedroom model
Live-adjacent	Workhome in which the dwelling element is in a separate, adjacent compartment to the workplace element, and has a separate entrance i.e. shopkeeper living in a flat above their shop or furniture-maker living above their workshop
Live-nearby	Workhome in which the dwelling element is detached and at a small distance from the workplace element i.e. shed, studio or workshop at bottom of garden, or mews type model

Table 6: Building Typology No. 2 - Spatial design strategy

This typology was applied to the participants' 75 buildings. They all 'fitted', [see fold-out drawing no 4].

o live-with

Fifty-one of the participants' premises conformed to the 'live-with' type¹⁶⁰, across a wide range of occupations from architect to manufacturing out-worker. Nearly three-quarters consisted of people inhabiting buildings where the dwelling function was dominant ('home dominant'). A quarter consisted of people inhabiting buildings where the workplace function was dominant ('work dominant'). Just one, an illustrator, inhabited an 'equal status' workhome. A quarter of their workhomes had been initially designed as hybrid buildings combining dwelling and workplace, more than a quarter were dwellings or industrial buildings that had been altered in some way to accommodate the dual functions, and just under half were un-adapted dwellings.

o live-adjacent

Thirteen participants' premises conformed to the 'live-adjacent' type. Of these¹⁶¹, just over half consisted of people inhabiting equal status workhomes, and the rest consisted of people inhabiting buildings where the workplace function was dominant ('work dominant'). None inhabited buildings where the dwelling function was dominant ('home dominant'). Three-quarters of these workhomes had been designed as hybrid buildings combining dwelling and workplace. Two were dwellings, and one was an industrial building, that had all been altered to accommodate the dual usage. The residential accommodation

¹⁶⁰ The 'live-with' buildings included: six industrial units, three purpose built studio-houses, three purpose-built work/live units, five purpose-built live/work units, 16 terraced houses or cottages, four terraced houses converted into maisonettes or flats, five purpose-built flats, five detached houses, one residential care-home, one purpose-built funeral parlour with living accommodation above, one historic house with integral manager's living accommodation, and one purpose-built shop with attached living accommodation that had been converted into an office with attached living accommodation.

¹⁶¹ The 'live-adjacent' buildings were a motley collection, including: a semi-detached house, a purpose-built school caretaker's house embedded into a primary school building, a terraced house with a door knocked through into an adjacent terraced shop, four terraced shops with living accommodation above, a detached shop with living accommodation on both the ground and upper floors, an industrial building of which the upper two floors had been converted into residential accommodation, two pubs, and a disused pub, converted into a workshop, with living accommodation on three floors above.

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Figure 172: A workhome that has evolved over generations (LWR02)



Figure 173: A 'home lodge' in a suburban garden (LWS03)

was generally located above the workplace, although in two cases it was next door, and in two cases it was both above and next-door. In theory the workplace element could also have been positioned above the dwelling element, as in the case of Le Corbusier's studio-house for the artist Ozenfant in Paris, but none of the buildings in the sample conformed to this model.

o live-nearby

Eleven participants' premises conformed to the 'live-nearby' type, having a workplace detached and at a small distance from the dwelling, while four more combined 'live-nearby' with 'live-with' (for example the rector who had a study in his rectory and also worked in the nearby church). Of these¹⁶², five inhabited equal status workhomes, while the rest were people inhabiting buildings where the dwelling function was dominant ('home dominant'). None inhabited buildings where the workplace function was dominant (work dominant). Five of the 'live-nearby' workhomes had initially been built as workhomes (in two, the occupation had transformed over time, from a wheelwright's shop to a petrol-station and workshop [fig 172], and from a farm to a market-garden, the majority of the farmland having been sold for development into a residential estate, [fig 98, 99]). The rest were dwellings with nearby workplaces. In every case the dwelling and workplace elements of the workhome were contained in separate buildings at a distance of less than two minutes walk from one another¹⁶³. In the majority of cases, they had separate, publicly accessible, entrances onto the street, but in just over a third of the buildings the workplace was reached by either going through the dwelling, or going down the side of the dwelling, to a building in the garden.

There were a number of different models within the live-nearby type. Three participants' buildings conformed to the 'shed at the bottom of the garden' model, one of which was a diminutive studio in an off-the-peg garden shed [frontispiece] (LWS02), one of which was a fully serviced 'home lodge' [fig 173], the equivalent to a small house in a large suburban garden (LWS03), while the third was a Portakabin that had been hoisted into the garden of a small East London terraced house [fig 103] (LW36). One (an architect) conformed to the 'mews' model [fig 128, 129] (LW08). One (the wedding car chauffeur)

¹⁶² The 'live-nearby' buildings were also a strange assortment, including: a terraced house with a Portakabin in the back garden, a terraced house with a mews-style studio built at the bottom of its garden accessed by a subsidiary road, a terraced house with commercial greenhouses on adjacent land accessed by a different road, a terraced house with a bakery in an adjoining yard, a terraced house with a nearby church, a terraced house and shop with a workshop at a short distance, a semi-detached house with a shed in the garden, a semi-detached house with a substantial 'home-chalet' in the back garden, a detached house with a petrol station and workshop in an adjoining yard, a detached house (bungalow) with a workshop in its the garage and a detached house with a nearby church

¹⁶³ It remains to be determined at what distance the elements would need to be apart before they stopped being a 'live-nearby' workhome, and counted as 'going out to work'. A walk of 2 minutes or less has been accepted in this research.

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conformed to the 'working in the garage' model, his garage/ workshop being positioned at the end of the drive adjacent to his bungalow(LWR18). Three further participants (the baker, garage proprietor and market gardener (LWR12, LWR02, LWR05)) were working in businesses where the workplace was located in a large yard adjacent to the dwelling. One was built so the house and the workplace fronted onto different, parallel roads [fig 98, 99] (LWR05). Nearly three-quarters of the 'live-nearby' sample was from either the rural or suburban sample, where lower housing densities made this type more easily achievable in terms of available space. Many urban participants said that this would be their ideal arrangement.

Historically all three spatial design strategies are common, but contemporary workhomes have tended to be built as 'live-with' buildings, probably because the most common contemporary form of workhome, the 'live/work unit', originated in the vast open-plan loft studio-homes of home-based New York artists, and has been perpetrated in the 'conceived' spaces of architects' plans. The other two types offer greater degrees of spatial separation between the workplace and dwelling spaces in the workhome. Many participants spoke of either the 'live-adjacent' or the 'live-nearby' type as their ideal. Together, these two typologies provide a conceptual framework that enables an analysis of the workhome. They will be useful in the development of future workhomes.

A cross-analysis was made between the types of people and the two building typologies. This revealed strong spatial tendencies within each group.

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User-group	Building Typology No. 1: Dominant function	Building Typology No 2: Spatial design strategy
'Juggling parents' 20 total	Home dominated 18no. Equal status 2no.	Live-with 15no. Live-nearby 4no. Live-adjacent 1no.
'Backbone of the community' 14 total	Work dominated 8no Equal status 5no. Home dominated 1no.	Live-adjacent 9no. Live-nearby 2no. Live-with + live-nearby 2no. Live-with 1no.
'Professionals' 13 total	Home dominated 9no. Work dominated 3no. Equal status 1no.	Live-with 12no. Live-nearby 1no.
'Obsessive artists' 8 total	Work dominated 6no. Equal status 1no. Home dominated 1no.	Live-with 8no.
'Manual' 8 total	Home dominated 3no. Equal status 3no. Work dominated 2no.	Live-with 5no. Live-adjacent 2no. Live-nearby 1no.
'Top-up' 7 total	Home dominated 7no.	Live-with 6no. Live-with + live-nearby 1no.
'Live-in' 3 total	Work dominated 3no.	Live-adjacent 2no. Live-with 1no.
'Start-up' 2 total	Work dominated 1no. Home dominated 1no.	Live-with 2no.
'Student' 1 total.	Home dominated 1no.	Live-with 1no.

Table 7: A cross-analysis of the sample by user-groups and two building typologies

The tendency of 'juggling parents', 'professionals', 'top-ups' and 'students' was to inhabit buildings in which the dwelling function dominated, and where the spatial design strategy was for a single compartment with a single entrance¹⁶⁴. A range of different models, including dwellings, purpose-built studio-houses and live/work units, represented this tendency. In general they were private buildings, the dual function not being apparent from the street, except in cases that had been specifically designed as hybrid buildings. In other words, these groups tended to work at home, in their houses, flats or live/work units, with or without a dedicated workspace located either in a separate room, or in a separate building a short distance from the home. There was usually a single entrance to these buildings from the street. This was often a compromise; the participants often stated a preference for a more formal solution.

The tendency for the 'backbone of the community' group was to inhabit buildings in which the workplace function dominated, or the functions of dwelling and workplace had equal status. The dwelling tended to be in a separate but adjacent compartment to the

¹⁶⁴i.e. they were: 'home dominated' and 'live-with'.

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workplace, with a separate entrance, or in a separate building at a small distance¹⁶⁵. This tendency was represented by a number of different models, including the 'living above the shop/pub/funeral parlour' model, the 'clergy living adjacent to the church' model, and the 'garage proprietor/baker living across the yard from their workplace' model. In general these buildings were primarily public spaces with associated private living space. Many of them were purpose-built workhomes. In other words, this group tended to live either in a house or flat above or next door to the workplace, or in a separate building at a short distance from the workplace. There were usually two entrances to these buildings, one for the dwelling element and the other for the workplace element.

The tendency for the 'obsessive artists' group was to inhabit buildings in which the workplace function dominated, and the dwelling and workplace functions were contained with a single compartment, with a single entrance¹⁶⁶. This tendency was represented by a number of different models, including the (often only marginally converted) industrial unit, the dwelling, the work/live unit and the live/work unit. These buildings were generally private, their dual functions not visible from the street.

The tendency for the 'live-in' group was to inhabit buildings that had been designed to accommodate the caretaking aspect of their role. In some cases this was reflected in the architecture, the scale of the school caretaker's house and its windows, for example, contrasting with that of the adjacent school [fig 62]. The care-home accommodated both the care-worker's rooms and those of the elderly residents [fig 137]. In these buildings, the workplace dominated. These tended to be workplace dominated, and there was a tendency for the dwelling and workplace functions to be contained with a single compartment with a single entrance, or the dwelling to be in a separate but adjacent compartment to the workplace. These were usually public buildings that included private residential space.

The range of models that conformed to these 'tendencies' was extensive but, as Table 7 shows, there were also many exceptions, some of which were notable. So care needs to be taken with their application. One cannot necessarily generalise about the space that a particular type of participant will inhabit. Not only do many people inhabit spaces that do not match their ideal, but personality and philosophy of life are factors that have to be taken into account. In practice most people were found to be compromising, spatially. This research has found how people engage in home-based work, and what

¹⁶⁵ i.e. they were: 'work dominated' and 'live-adjacent'.

¹⁶⁶ i.e. they were 'work dominated' and 'live-with'.

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design issues this raises. It indicates substantial scope for design in this previously unrecognised building type. This will be discussed in detail in Chapter Seven.

Building Typology No 3: Patterns of use

[Please read with fold-out drawing no. 5, located at the back of Volume Two]

Once the first two typologies were established and the tendencies drawn out, an analysis of how the buildings were used was overlaid. Fold-out drawing no. 5, located at the back of Volume Two, maps this further typology. Eight participants did not differentiate between their ‘work’ and the rest of their lives. All their spaces (irrespective of the form of the building) were in dual-use, transforming according to time of day or activity (plans coloured red only)¹⁶⁷. Five participants liked to keep their ‘work’ and the ‘rest of their life’ completely separate, the spaces being either dedicated workspaces or dedicated living spaces, again irrespective of the form of the building (plans coloured blue and green only) ¹⁶⁸. Twenty-seven participants’ workhomes incorporated dedicated living space (coloured blue) and dual-use space (coloured red). Thirty-six participants’ workhomes incorporated dedicated living space (coloured blue), dual-use space (coloured red), and a dedicated workspace (coloured green) as well. These different practices related primarily to the lifestyle and philosophy of the inhabitant rather than the spatial design strategy of the building they inhabited.

1.	‘All spaces in dual use’	8/76 (11%)
2.	‘Some dual use, some dedicated living spaces’	27/76 (36%)
3.	‘Some dual use, some dedicated living spaces, some dedicated working spaces’	36/76 (46%)
4.	‘All dedicated living spaces or dedicated workspaces’	5/76 (7%)

Table 8: Building Typology No 3 - Patterns of use

Fold-out drawing no. 6 (typology schema, located at the back of Volume Two) maps the relationships between the three typologies. This is an aid for thinking about the design of the future workhome. The first ‘layer’, dominant function, is a tool for governing the nature of the overall inhabitation. The second ‘layer’, spatial design strategy, helps us understand the three primary approaches to the spatial arrangement of the dwelling and workplace functions in a workhome. The third ‘layer’, patterns of use, indicates the four different ways participants used the spaces in the workhome. These three factors offer a wide range of strategies for the design of their workhome. When read in conjunction with the user-groups, it is possible to identify design strategies that may be appropriate

¹⁶⁷ LW07, 24, 26, 31, 33, 35, 38 and 50
¹⁶⁸ LW12, 34, 36, R01, R11

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to the patterns of use of each different group of home-based worker.

Fold-out drawing no 6 suggests that there is a gradient with regard to the determinacy of space. Those participants who tended to the dual-use of all their spaces preferred indeterminate buildings. Those who tended to a strict functional separation between dedicated 'living ' and dedicated 'working' spaces, preferred determinate buildings. Around a fifth of the participants' buildings were indeterminate, all part of the urban sample, designed and built as large open-plan spaces. Just under half were purpose-designed live/work or work/live units, while half were industrial buildings adapted by their inhabitants. With only two exceptions, the 'obsessive artists' inhabited such indeterminate buildings, often breaking conventions about how to live, the fluidity of space and function suiting their way of life. A lack of sound compartmentation and light pollution could be problematic, as could difficulties around privacy, entrance, and pollution. However these participants found the advantages outweighed the disadvantages. Participants in other user-groups found these spaces more difficult to inhabit. The indeterminate nineteenth century East End yards and courts enabled a wide range of different sorts of home-based work to flourish. By contrast, the determinate spaces of the social housing that replaced them, arranged vertically with deck access, discouraged this practice.

Table 9 shows a cross-analysis of the user-groups, the spatial types and the patterns of use.

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Type of home-based worker	Dominant function	Spatial design strategy	Patterns of use
'Juggling parents' 20no. total	Home dominant 18no. Equal status 2no.	Live-with 15no. Live-nearby 4no. Live-adjacent 1no.	Some dual-use, some dedicated 'living' spaces 19no All spaces either dedicated 'living' or dedicated 'work' spaces 1no.
'Backbone of the community' 14no. total	Work dominant 8no Equal status 5no. Home dominant 1no.	Live-adjacent 9no. Live-nearby 2no. Live-with + live-nearby 2no. Live-with 1no.	Some dual-use, some dedicated 'living' spaces 12no. All spaces either dedicated 'living' or dedicated 'work' spaces 2no.
'Professionals' 13no. total	Home dominant 9no. Work dominant 3no. Equal status 1no.	Live-with 12no. Live-nearby 1no.	All dual-use spaces 2no. Some dual-use, some dedicated 'living', spaces 11no.
'Obsessive artists' 8no. total	Work dominant 6no. Equal status 1no. Home dominant 1no.	Live-with 8no.	All dual-use spaces 5no. Some dual-use, some dedicated 'living', spaces 3no.
'Manual' 8no. total	Home dominant 3no. Equal status 3no. Work dominant 2no.	Live-with 5no. Live-adjacent 2no. Live-nearby 1no.	Some dual-use, some dedicated 'living' spaces 6no. All spaces either dedicated 'living' spaces or dedicated 'work' spaces 2no.
'Top-up' 7no. total	Home dominant 7no.	Live-with 6no. Live-with + live-nearby 1no.	Some dual-use, some dedicated 'living', spaces 7no.
'Live-in' 3no. total	Work dominant 3no.	Live-adjacent 2no. Live-with 1no.	Some dual-use, some dedicated 'living' spaces 3no.
'Start-up' 2no. total	Work dominant 1no. Home dominant 1no.	Live-with 2no.	All dual-use spaces 1no. Some dual-use, some dedicated 'living', spaces 1no.
'Student' 1no. total.	Home dominant 1no.	Live-with 1no.	Some dual-use, some dedicated 'living' spaces 1no.

Table 9: A cross-analysis of the sample by user-group and three building typologies

While there was a strong correlation between the spatial types and participants' patterns of use, this was not consistent. The 'home lodge' studio of the graphic designer, for example [fig 173], accommodated her husband's fitness equipment, his wardrobe, a bathroom and a sofa-bed. Every morning her husband did an hour's workout, took a shower and dressed for work down there. The building was also used as a spare ensuite bedroom for guests. While 'live-nearby' in form, this was a dual-use space that transformed according to time of day and function. It was not a dedicated workspace

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(LWS03).

For each user-group one particular combination of dominant function, spatial design strategy and pattern of use emerged as most common. This suggested that it might be possible to develop a relatively small number of 'models' from the seventy-five buildings in the sample. This will be explored further in Chapter Seven.

Terminology

One of the contributions this research makes to this field is to propose a name for this previously unrecognised building type. The term 'workhome' was introduced at the beginning of the thesis for clarity, as it is difficult to write about something that has no name. However, the process of settling on this term was lengthy, and carried out in parallel to the empirical work. At the inception of this project, 'live/work' was used to describe the phenomenon of home-based work and its associated buildings. But an awkwardness crept in as the research progressed, as this term was increasingly being applied to buildings, such as the funeral parlour, that bore no relationship to the popular image of 'live/work'. An investigation of the SoHo loft movement led to an examination of the term, and this ultimately led to its rejection.

Throughout the project a further term, 'live/workplace', was used. Focusing on the workplace aspect of the building, it also linked this generic building type to the contemporary 'live/work' movement. However as the research progressed it became apparent that there were problems with this term. It was cumbersome and the first syllable was frequently mis-pronounced (to rhyme with 'jive') by people who encountered the term first in print. It also became apparent that the term 'live/work' had been tarnished by the difficulties local authorities such as LB Hackney had experienced in 'live/work' developments. LBH planners, however, were not closed to the idea of 'homeworking'. They recognised the potential benefits of a home-based workforce. So the challenge was to devise a new term that could embrace the principle, without getting tangled with the imagery of 'live/work' and its closely associated loft-style apartment.

The term 'workhome', selected towards the end of the research process, was chosen because it is simple, clear and universal. It does not refer to 'models', in the way 'live/work' or 'workhouse' do. 'Work' and 'home' are unambiguous; when combined they produce a new, easily understood term. In conjunction with the terms that have been devised in the three building typologies, this makes a contribution to the development of a stable language that can be used to describe and analyse the building type that

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combines dwelling and workplace. This is intended to make a contribution to furthering contemporary understanding of the field. It may also encourage the development of design solutions and governance policy for this largely hidden building type.

User-group	Dominant function	Spatial design strategy	Patterns of use
'Juggling parents'	'Home dominated'	'Live-with'	All spaces in dual use
'Backbone of the community'			Some dual-use, some dedicated 'living' spaces
'Professionals'	'Equal status'	'Live-adjacent'	Some dual-use, some dedicated 'living' and some dedicated 'working' spaces
'Obsessive artists'			
'Manual'			
'Top-up'	'Work dominated'	'Live-nearby'	All spaces either dedicated 'living' or dedicated 'working' spaces
'Live-in'			
'Start-up'			
'Student'			

Table 10: Summary of user-groups and building typologies for workhomes

Chapter conclusion

An analysis of the participants and their buildings has led to the identification of underlying types within the sample. This has revealed four determinants in the design and use of the workhome: a) the user-group, b) the dominant function, c) the spatial design strategy determining the degree of spatial separation between dwelling and workplace elements of the workhome and d) possible patterns of use. These help to sort out some central design issues for the workhome. This has led to the identification of a number of 'tendencies' in the relationship between types of participants and the type of workhome they inhabit. In the next chapter an analysis is made of the social and economic context of contemporary home-based work. Both processes are necessary steps before the third aim of this thesis, to contribute to the debate on architectural solutions and governance policy for this building type, may be achieved. This is discussed in Chapter Seven.

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Chapter Six: The contemporary context of the 'workhome'

In the last chapter, the empirical evidence was analysed to identify types of home-based worker and workhome. Before embarking on an analysis of the implications of the findings of this research for the future design and governance of the workhome, some thought has been given to the contemporary political and economic context of home-based work. While aiming to clarify the underlying reasons for the recent rise in the popularity of the practice, this may also give some indications about the likely future of the practice and this building type.

"The modern economy consists of two complementary spheres that have to be kept separate, despite their interdependence. One of them is a zone of infinite scope where things and, increasingly, human creativity are bought and sold for money, the market. The second is the protected zone of domestic life where intimate personal relations hold sway, home... This duality is the moral and practical foundation of capitalist society. It is reflected in the institutional segregation of selling and buying, production and consumption, income and expenditure, work and home." (Hart, 2000 p211-2)

This research estimates that maybe a quarter of the UK working population carries out their productive work at or from home, or lives at their workplace, for at least part of the week, generally in buildings that have not been designed for the dual function. In effect, there is a previously unidentified building type, a hybrid building combining the functions of dwelling and workplace, that has been in daily use for hundreds of years by a large proportion of the population, from smith to weaver, washerwoman to baker, clergyman to caretaker and author to tele-worker, the occupations gradually transforming over time. This building type has apparently never before had its history traced or been theorised. It has not been incorporated into mainstream architectural typologies or classification systems and, since the mid-nineteenth century, it has rarely been consciously designed for. The governance of its most recent form, the 'live/work unit', has been so problematic that planning authorities in both the US and the UK have revoked permission to build it¹⁶⁹. Virtually invisible, despite its existence throughout the built environment, the workhome takes the form of the shop, restaurant, funeral parlour with living accommodation above; the vicarage, school caretaker's house, the pub; the houses, flats and bungalows with workspaces in the spare bedroom or in the garden shed; the studios, warehouses, garages with living accommodation tucked in amongst the workspace, and finally the live/work units that, although apparently specifically designed around this much needed

¹⁶⁹ SOMA, San Francisco, USA and Hackney, UK

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dual function, are now increasingly difficult to get permission to build, and often do not function as desired.

New building types emerge as a result of a combination of social, political, technological and/or economic developments. It is argued here that the workhome, despite its existence for millennia, may now be interpreted as an important new building type generated, in part, by developments in telecommunications and information technology. The recent rise in home-based work may also be associated with people seeking to improve their quality of life. However underlying forces appear to be working to maintain the physical separation between 'work' and 'home'. An understanding of these, combined with the current pressing environmental imperative, may enable home-based work to surface as a political issue. This could lead to the adoption of home-based work as an efficient, sustainable, family-friendly employment policy. This may, in turn, contribute to the acceptance of the workhome as a building type with a great deal of social and architectural potential.

The historical evidence shows that the social and spatial separation of 'work' from 'home', production from reproduction, man from woman, was initiated by the industrial revolution. This physical separation between workplace and dwelling was both an inevitable consequence of industrial capitalism and its invaluable tool. Employers gained an unprecedented degree of control over their workforce in the collective workplace, enabling the maximisation of profits from industrialised production. Mechanisation of manufacturing processes involved major capital investment and running costs, which were recouped through the imposition of punitive working conditions on the workforce. These involved long working hours, payment for the precise time worked only, penalisation for late arrival at work and stringently controlled breaks, thus introducing the concept of efficiency to a previously unregulated workforce. The workers lost their independence, often having to accept the terms of the factory and mill owners, who ran effective monopolies on employment, or face the loss of their livelihood. In addition, an unpaid female workforce was created whose lives were 'devoted' to the business of looking after the paid worker, the husband, and rearing the next generation of workers (More, 2000). The population at large internalized the moral attitudes that underlay these changes: a good mother did not 'work', she cooked and cleaned and brought up her children. A good father went out to work, settling at home in the evening to be looked after by his wife (MacKenzie, 1989). The city was increasingly shaped to accommodate the physical separation of workplace and dwelling.

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Lefebvre, in his holistic theory of space, rejected the idea of space as a fact of nature, an empty vessel in which activities take place, and conceptualized it as a 'product' that embodies the ideas, and in particular the power relationships, of the society that produces it (1991). He suggested:

"...the dispersal of our homes in far-flung suburbs is a product of capitalist relations (central areas are taken over by commercial functions while residential use of space is relegated to the periphery)... the organisation of space – the essential similarity of different places, the fragmentation of life (e.g. work and home) between different places, and the hierarchy of control between dominant and subordinate places – thus carries within it the inner logic of capitalist hegemony... capitalist human relations are reproduced in everyday life through this spatial patterning..." (Lefebvre 1991, cited by Saunders, 1986 p159)

The spatial separation of workplace and dwelling may therefore be interpreted as an embodiment of the relations of production in capitalism. People resisted this separation and were prepared to go to great lengths to continue in home-based work, as was shown by Coventry's nineteenth century 'cottage factories'. However the work of reformers like Webb and Howard bolstered the interests of industrial capitalism and resulted in the widespread segregation of 'work' and 'life' at both an urban scale and at the scale of the individual building. These interventions, while reducing overcrowding and improving sanitation, increased the numbers of men 'going out to work' and women 'staying at home' in the developing role of housewife. These gendered relations of production, while efficient for capitalism, were disempowering for the population. Married women lost their economic role, and men became further alienated from their work. The word 'work', used to describe productive activities for which people were generally paid, developed a pejorative meaning. Working, as opposed to not working, relaxing, having a holiday, came to be interpreted as an undesirable, but necessary, activity. The workplace became a place where the individual spent as little time as possible, while 'home' became a place of sanctuary, a refuge from work, where enjoyable evenings, weekends and holidays might be spent, recuperating from the exertions of work (MacKenzie and Rose, 1983).

The governance structures of the country developed around this dualism, at both central and local government levels. Ebenezer Howard's ideas had a major influence on the frameworks for national planning policy (Hall, 1992), initiated in 1947, which developed around the idea of functional zoning at an urban scale and Planning Use Classes at an individual building scale. These Use Classes maintain a strict separation between dwelling houses (C3) and business (B1), even categorizing building types that traditionally combined dwelling and workplace, such as the shop and the public house,

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solely as workplaces (shop A1, food and drink A3-A5). Local taxation policies were also developed around this separation, culminating in the current binary system of council tax vs. business rates¹⁷⁰. Even the utility companies developed different pricing structures for workplaces and private dwellings. To this day, separate Departments of 'Work and Pensions' and 'Trade and Industry', with housing buried in 'Communities and Local Government', continue to be organized around mutually exclusive areas of concern. Local authorities have a similarly polarised approach, as is demonstrated by the categories on the London Borough of Hackney's website: Advice & Benefits/ Business/ Community & Living/ Council & Democracy/ Education & Learning/ Environment & Planning/ Health & Social Care/ Housing/ Jobs & Careers/ Leisure & Culture/ Transport & Streets.

The relationship between the family and productive work has, however, changed over the past 50 years. By the 1950s, the gendered division of labour in the heterosexual family was almost universal (Young and Willmott, 1986). The sphere of the home, housework and childrearing, was the area of interest and responsibility of the woman, while paid employment was that of the man. This was disrupted by major social changes in the 1960s, the result of broadening access to education and contraception, the radicalising effect of both the Vietnam War and the Women's Liberation Movement, and new forms of women's work becoming available. Previously unassailable assumptions about the make-up of the family and its structures were challenged, resulting in women entering/re-entering the field of paid employment outside the home, particularly in part-time work. The acceleration of consumer capitalism in the late twentieth century led to an increasing desire for material wealth in the already affluent West. The primary focus in the family¹⁷¹ shifted from production to consumption, and the accumulation of goods and capital through paid employment. Housework and childcare became secondary preoccupations, either forced into the residual parts of the day, or into the market, where cleaners, readymade meals from supermarkets, and nurseries, childminders and nannies replaced the labour of the full-time middle-class housewife. These changes had a powerful impact on the social structure of the city, suburb, town and village, residential areas remaining largely empty while their inhabitants were out at work, school or nursery, only re-populated at the end of the working day.

While widespread, the separation of work and home was never universal. Many people continued to work at or from home, or live at their workplace throughout the nineteenth

¹⁷⁰ The separate, somewhat obscure, category of 'composite hereditament' was created for hybrid buildings combining dwelling and workplace for purposes of local taxation. This is generally only applied to 'visible' workhomes.

¹⁷¹ 'Family' is used in the broadest sense to mean any group of people who live together, regardless of age, sex, or the nature of the relationship.

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and twentieth centuries, often in occupations supporting manufacturing processes that were carried out in collective workplaces. In the late twentieth and early twenty-first centuries this practice has become increasingly popular as a result of developments in telecommunications and information technology. The computer, broadband, internet and e-mail have removed the necessity for many people to work in collective buildings and people are increasingly carrying out their paid employment at home (Haddon and Silverstone, 1993). Today, during this 'information revolution', there is evidence that home-based work, while continuing to operate on the fringes of collectively organised work, is also becoming a mainstream economic activity¹⁷².

The contemporary home-based workforce, as represented by this thesis, ranges from senior managers in full-time employment with multi-national corporations to anarchist graffiti artists. It is difficult to create a socioeconomic narrative that embraces the phenomenon as a whole, but two strands may be discerned. The first consists of home-based employers and employees who conform to the standard relations of production of mainstream capitalism. The second consists of the self-employed sector, including people working in family enterprises¹⁷³. The political economist, Bernstein (1986), produced an analysis of the family enterprise, based on his work in less economically developed countries, which suggested that it combines the following three processes: a) assembly of the means of production and labour, b) combining them to carry out various labour processes, and c) appropriation of the income realised from its activities and determination of its use.

Many participants in this research, both self-employed as sole traders and in family enterprises run using unpaid family labour, conformed to this model. This sector of home-based workers can be seen as subverting aspects of capitalism, constructing a lifestyle and mode of production akin to a pre-capitalist form, a sort of 'contemporary peasantry'. Such people, working for themselves or running a home-based business with their family, may simultaneously be employer, employee and owner of the means of production. Some, such as the graffiti artist, may not appear to have a direct relationship to capitalism. However they inevitably engage with the market through, for example, the sale of art, through organising arts events, or through the purchase of the materials and technology they use, the goods they consume and the space they inhabit. Such people are also often bound to capitalism through debt to a bank or building society, in many

¹⁷² British Telecom now employs over 10,000 homeworkers; a growing number of other organisations are also introducing home-based work policies, i.e. East Midland Electricity, Oxford Brookes University, BAA, BBSRC, NICE

¹⁷³ A family enterprise is a business owned and run by a family, using unpaid family labour, in which the fruits of their labour are reinvested in the family.

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cases on the building they inhabit or the tools of their trade. Thus they do not, actually, own their means of production. The term 'petty commodity producer' was coined by Marx. Gibbon and Neocosmos describe them as

"...commodity producers who possess the means of production necessary to produce commodities, and who engage in production on the basis of unpaid household labour alone..." (Gibbon P & Neocosmos M, cited by Bernstein and Campbell, 1985 p170)

The self-employed sector of home-based workers often conforms to this definition of petty commodity producers¹⁷⁴ "... still manag[ing] to survive in the interstices of the new society" (Mandell, 2006). It also has characteristics in common with the 'original affluent society' that operated a 'domestic' mode of production, as identified by the anthropologist Sahlins. This term was used to describe a primarily household-based mode of economic production and consumption amongst hunters and gatherers, in which reproductive and productive work was undifferentiated. Production was motivated by the subsistence needs of the domestic unit, with an emphasis on use values. Little surplus was produced because most of their product was consumed.

"There are two possible courses to affluence. Wants may be 'easily satisfied' either by producing much or desiring little... The world's most primitive people have few possessions, but they are not poor. Poverty is not a certain small amount of goods, nor is it just a relation between means and ends; above all it is a relation between people. Poverty is a social status. As such it is the invention of civilisation." (Sahlins, 1972 p1)¹⁷⁵

The three primary characteristics of this 'domestic mode of production', as analysed by Nielsen (1999), are firstly, under-productivity, secondly, production geared to meet the needs of the family, and lastly, the household not usually being wholly self-sufficient but also relying on exchanges.

A further, central, characteristic is that its economic production and consumption is household-based. Bernstein identified petty commodity production, in the form of family enterprise, as a...

"...conceptually intermediate form of production... shar[ing] with capitalism full market integration and regulation by competition, and with peasant production, family property and labour" (Bernstein, 1986 p37)

The home-based self-employed workforce may be said to be working in a 'conceptually

¹⁷⁴ For more about petty commodity production see the debate that developed between John Turner and Rod Burgess regarding petty commodity production in housing e.g. Burgess R (1978) 'Petty Commodity Housing or Dweller Control?' in *World Development* Vol 6 7-12 p1112

¹⁷⁵ This links to the debate about relative poverty. Relative poverty is based on a comparison of poor people with others in society. Peter Townsend defines poverty as "the absence or inadequacy of those diets, amenities, standards, services and activities which are common or customary in society."

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intermediate' form of production, in an overall capitalist context. Clearly, over time, some such enterprises expand and enter the market fully, while others stay marginal.

Two modes of home-based work appear to be emerging. In the first, working at home is used as a way of increasing efficiency within mainstream employment relations. British Telecom uses 'homeworking' as a means of reducing overheads, increasing productivity, and therefore profit. Around 10,000 of its 90,000 plus workforce works at home, providing productivity gains of, on average, 20 per cent (British Telecom, 2006). Their home-based call-centres handle 20 per cent more calls than their site-based colleagues. They take less time off sick and save BT an estimated £6,000 per year per home-based worker in overheads (British Telecom, 2006)¹⁷⁶. Home-based work, in this context, makes sound business sense in a capitalist mode of production. Growth, an essential component of capitalism, is effected firstly by raising the productivity of existing workers through home-based work, and secondly through the employment of an ever-increasing number of home-based workers.

In the second mode, petty commodity producers operate in a domestic form of production within capitalism. Although apparently marginal, this mode fulfils an important function for mainstream capitalism in providing a workforce that can react flexibly to fluctuations in the market. It also offers the possibility of jobs and increased incomes for some of the more vulnerable members of society. Many small businesses start up from home, often initially in this mode, economically efficient as a result of low overheads and the long hours often associated with new enterprises. Some enterprises relocate to separate premises away from the home once they have grown sufficiently to be able to support this shift. Others remain in the domestic form of production, either because it meets other needs such as the ability to work flexibly around dependants, or because their enterprise has limited commercial success.

While the working population resisted the changes to employment that were imposed by the industrial revolution, the reverse appears to be true of the shift to home-based work that results from the informational revolution. In Chapter Four, it was found that most of the participants either 'liked' or 'loved' home-based work. In this section, some possible reasons for this are explored.

A fundamental aim of the economic policies of the 1980s and 90s in the UK was to

¹⁷⁶ See also BT case study on: WORK FOUNDATION, (2006a) www.employersforwork-lifebalance.org.uk/case_studies/bt.htm (Accessed on 21.10.06),

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increase productivity, and thereby maximise profit. Crafts, an economic historian, noted the resultant marked improvement in the UK's productivity performance (Crafts and Toniolo, 1996). Francis Green (2001), in his study on the concentration and intensification of work in late twentieth century Britain, identified a rise in work effort across the whole economy, with work intensity growing faster in Britain than any other country in the European Union between 1991-6. The 'constraints of the job' were the chief sources of this labour intensification, but new technology and working practices also made a contribution. A culture of long hours developed, with one in three fathers working over the 48 hours a week limit set by the European Working Time Directive by 2005 (Work Foundation, 2006b). These increases in effort were associated with self-reported increases in stress, stress being defined as "the extreme manifestation of rising pressure at work" (Green, 2001).

In the new workplace, organised to maximise efficiency and therefore profit or, in the case of public services, to minimise expenditure, the wellbeing of the worker was neglected. Policies were implemented without apparent concern for the social implications. Stress and absenteeism rose (Work Foundation, 2006b). Research commissioned by the Health & Safety Executive indicated that about half a million people in the UK experienced work-related stress at a level they believed was making them ill in 1995-6, and up to five million people felt 'very' or 'extremely' stressed by their work. This work-related stress was estimated to cost society nearly £4bn every year at 1995-6 prices (Work Foundation, 2006b). Personal dissatisfaction at work has also been shown to put people's mental health at risk (Faragher et al., 2005). It seems probable that there is a connection between rising work-related stress, job dissatisfaction, and the current epidemic of depression, involving one in six UK adults (Centre for Economic Performance's Mental Health Policy Group, 2006). In effect, the working population of the UK has become stressed and demoralised as a result, amongst other things, of economic policies that prioritised increased efficiency over the welfare of the workers. This may have contributed to the rise of home-based work in recent decades.

A persuasive argument regarding happiness has been developed by the economist, Richard Layard (2005), which may have some bearing on this. Challenging traditional economic theories that set up the pursuit of ever-increasing wealth as the ultimate goal for both the individual and the national economy, he produces evidence to support the view that, once earning an annual income above \$20,000 per person per year¹⁷⁷, increased

¹⁷⁷ At 2005 prices, just over £15,000.

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wealth does not lead to increased happiness¹⁷⁸. A graph showing income and happiness in the USA between the years 1946 and 1996 suggests that as gross domestic product (GDP) per person climbs, the percentage of people feeling 'very happy' drops. Beyond the \$20,000 threshold, Layard argues that happiness does not increase as income rises, and as a result he questions GDP as a measure of national success. This is a radical thesis that undermines many previously accepted economic 'truths'.

This thesis has found that people enjoy home-based work, all sorts of people, from diverse socioeconomic backgrounds, across a wide range of occupations and inhabiting different building types. It makes them content, maybe even happy. The participants in this research spoke articulately, and at length, about the disadvantages to home-based work. Their comments on the negative aspects of working at or from home, or living at the workplace, stretched to 25 pages of data, densely spaced and in a small font. However, despite these outpourings of frustration and discontent, every participant ended the interview by saying that, for them, the advantages outweighed the disadvantages. From the out-worker earning a 'penny a bend' for forming a small component of an electronic device, to the upholsterer making curtains in her garage, with no windows and therefore no view, natural light or ventilation, they all reported liking working at or from home or living at their workplace, with only five exceptions (these will be returned to), out of a total of 76 interviews. A number reported "...absolutely loving it"¹⁷⁹. These people were making a positive choice to engage in home-based work, despite what appeared, in many cases, to be serious disadvantages, including the impossibly overcrowded working conditions of the building surveyor, or the graffiti artist having to use semi-derelict communal toilets at the end of his corridor and the showers in a similar state of disrepair on the floor above. This is in stark contrast to the study of 1,000 working Texan women cited by Layard (2003 p4-6), who were asked to analyse periods of different daily activities and attribute how they felt to each one. On average they felt happiest having sex (happiness index 4.7 for an average of 0.2 hrs per day), and they felt least happy on their morning commute (happiness index 2.0), closely followed by working (happiness index 2.7), and the evening commute (happiness index 2.8). These three most miserable activities were pursued for a total of 7.9 hrs on average per day.

The primary advantage of home-based work cited by participants is the ability to organise their lives as they wished. The introduction of the engine to the nineteenth century

¹⁷⁸ See Davison R 1992 and 2000 and Davison et al 2000 (cited by Layard R 2005 p17) for data on objective methods of measuring happiness and unhappiness through the use of brain scans and EEGs.

¹⁷⁹ It was not known in advance of selection whether a prospective participant liked or did not like home-based work

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Chapter Six: The contemporary context of the 'workhome'

Coventry weavers' lives is a good example of industrial capitalism imposing an inflexible way of life. The cultural and political uprising of the 1960s and 1970s may, in part, be interpreted as a rejection of this externally imposed inflexibility. That 37 different reasons were given for choosing home-based work in this research, demonstrates the diversity that exists in the working population¹⁸⁰. 'Going out to work' in order to earn a living stifled a wide variety of needs, such as that of mothers, or ill, disabled or elderly people, to be economically active, or the need for fathers to care for their children and contribute to domestic work. It also had a number of negative side effects, including the stress, time, cost, environmental impact and reduction of neighbourhood cohesion that results from people travelling a distance to work. Where the requirements of industrial capitalism involved the coercion of all but the most resistant square pegs into round holes, the inherent flexibility of informational capitalism enables the individual to combine their creative, economic, domestic and caring activities in the way that best suits them. In an increasing number of cases, this results in home-based work. A good work-life balance increases productivity because individuals have time sovereignty¹⁸¹ (Work Foundation, 2006b). The more autonomy individuals have, the less stressed they are likely to be (Work Foundation, 2006b). Home-based work allows people to exercise control over their work and, no matter how menial the task, this improves the quality of their lives.

While home-based workers do not, in general, earn as much as people who 'go out to work', they appear to enjoy their work more. If Layard's theory is reliable, we may expect to see a rapidly increasing proportion of the population choosing increased 'happiness' over increased wealth and joining the home-based workforce.¹⁸²

And yet the existence of this sizeable UK home-based working population is not apparent in the built environment. Houses and flats are still generally designed to accommodate people's basic reproductive needs, but little else. As a result most people who work at or from home, or who live at their workplace, do so in inappropriate conditions: often from their kitchen table or spare bedroom, or with a bed slotted into an industrial unit. But the history of the workhome includes many buildings specifically designed around the dual functions of dwelling and workplace. Their hybrid nature is often expressed architecturally, through different windows for example, as in the Coventry watchmakers' top-shops, where large areas of glass maximise natural light in the workspace part of the

¹⁸⁰ See Appendix 12

¹⁸¹ I.e. control over their work and workload, including being able to decide when, where and how they work

¹⁸² There are, of course, people for whom home-based work would not be appropriate, in terms of their occupation, their home environment, or maybe their temperament. The nature of this research is such that they have not generally been interviewed. Home-based work is not suggested as a universal solution; it would be inappropriate to impose it on reluctant employees.

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building. Given this history, one might expect these buildings to be apparent throughout residential and employment areas alike. This is not, however, the case. One might also expect radical new designs to be forthcoming to address this issue. In reality, despite the rapid expansion of this employment sector, even the entries for architectural competitions such as 'Future House' merely repeat what has come to be accepted as the traditional brief for 'dwelling': a place to cook, eat, sleep, bathe and watch television, nothing more.

Castells observes that:

"...advanced economies may be categorised not as 'post-industrial', but 'informational', the production of surplus deriving mainly from the generation of knowledge and from the processing of necessary information" (2000 p219)

The social consequences of recent innovations in telecommunications and information technologies are profound. As long as the contemporary largely information-based worker has access to connectivity and power, they can work wherever they please. This may lead to social and physical changes as momentous as those that followed the industrial revolution. The historic separation between work and home may be counter-productive in this new informational age, wasting time and resources alike. Although the number of people commuting to work dropped by eight per cent between 1995 and 2005, the average length of journey increased by six per cent. It also took 13 per cent longer (Department for Transport, 2005), increasing personal levels of stress and exhaustion in a substantial proportion of the population. In the context of advances in telecommunications and information technology this, combined with the UK female level of employment reaching record levels (Women and Equality Unit, 2001), has contributed to rapid growth in the home-based workforce.

If Hart's assertion, that the home/market duality is the moral and practical foundation of capitalism (Hart, 2000 p211-2), is correct, then no wonder the institutional frameworks resist pressures to bring the realms of 'home' and 'work' together. However it may be that his assertion is only partially correct. This spatial separation may have been fundamental to industrial capitalism, but the evidence from this research, of large corporations such as BT and thriving small businesses alike, suggests that the 'informational' economy may actually thrive on bringing the two spheres back together in the form of home-based work. It can be argued that the 'information revolution' is as important a process as the industrial revolution, leading to a new form of capitalism, 'informational capitalism' (Castells 2000). This emerges as a key concept in understanding the contemporary

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politics of home-based work. It leads one to question whether Hart's dualism is inherent to capitalism itself, or just to industrial capitalism. It may be argued that what Hart calls "the moral and practical foundation of capitalist society", involving two zones, the market and the home (2000 p211-2), is in reality only the moral and practical foundation of industrial capitalism. Perhaps informational capitalism has different moral and practical foundations.

Throughout most of the twentieth century, the physical expression in the built environment of the interests of the dominant class took the form of workplaces being geographically separated from dwellings, fulfilling the needs of industrial capitalism. Home-based work was generally subordinated to this, squeezed into either dwelling or workplace, or continuing previous traditions in historic hybrid buildings. In the context of the information revolution, it would be reasonable to expect new building types to emerge once again, and it might be thought surprising that they were not already visible. Perhaps one new building type is emerging, but it is generally invisible because it is camouflaged by a tradition that goes back hundreds of years. An inherent resistance to change and institutional lag also impedes its emergence. Perhaps the generic building that combines dwelling and workplace, the workhome, one of the oldest building types in existence, is the 'new' building type generated by the information revolution.

Chapter conclusion

If maybe a quarter of the working population is now working at or from home, or living at their workplace, for part of their working week or year, and most of the buildings they are living and working in are not designed to accommodate this hybrid function, then there is a mismatch between the available buildings and the needs of their occupants. In this chapter it has been suggested that while industrial capitalism tended to separate dwelling and workplace, informational capitalism may have a tendency to bring those two spheres back together again. It has been found that people enjoy home-based work because it gives them increased control over their lives. As a result, it is argued, the workhome may be emerging as the 'new' (and increasingly necessary and important) building type resulting from informational capitalism. In the next chapter the implications of the findings of this research will be explored.

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The first two aims of this thesis have been fulfilled. The workhome has been established as an identifiable building type with a continuous, traceable history. And key features of its contemporary manifestation have been explored, through an investigation of 76 home-based workers and the buildings they inhabit. This has resulted in the development of a number of typologies. In this chapter the third aim is tackled: to contribute to the debate on architectural solutions and governance policy for this building type. Accepting that the buildings cannot be addressed in isolation, this involves an analysis of the findings of this research in terms of the practice, the buildings, their governance, and the urban context.

The analysis of the political and economic context of home-based work in the previous chapter suggests this practice may have an important role to play as the informational economy develops. It has emerged as a popular, sustainable, family-friendly practice that is, however, currently largely invisible. This disguises both its benefits to society and its disadvantages. This thesis argues that the disadvantages, while potentially substantial, may be reduced or removed through education, legislation and appropriate design at both the urban and the individual building scale. This cannot happen until the practice of home-based working in workhomes goes onto the political agenda. Airing the issues may be a precursor to this.

Benefits of the practice

In addition to the discussion in Chapter Six of the political and economic role of home-based work in informational capitalism, two further benefits of home-based work have been selected for special focus here.

As shown in Chapter Four, home-based work has great potential in terms of equal opportunities. It enables people to work for whom working in the conventional workplace is problematic. By the end of the eighteenth century there was a marked contrast between the status given to paid and domestic work and as a consequence women gradually lost both economic status and power in society. Industrialisation signalled a further change in the gender relations of production, as women with children became increasingly unable to 'go out to work'. Although by the 1950s it had become usual for women to stay at home in a domestic role, this trend reversed in the following decades to the point where, in 2005, 70 per cent of women were in paid employment (National

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Statistics Online, 2006), compared with 56 per cent in the early 1970s (National Statistics Online, 2004). This increase in women's employment has resulted in an increase in personal stress, as women juggle their (often part time) paid work with housework and their caring responsibilities. Commuting contributes to gender stereotyping in the family. Women struggle to fulfil their potential in paid employment outside the home while men are rarely able to perform an equal and effective role (beyond that of breadwinning).

It has been shown in Chapter Four that home-based work, however, enables women in a wide range of occupations to continue working through their childrearing years. This practice thus contributes to a reduction in stereotypical roles; men can look after children and women can work. Many men said home-based work allowed them to get involved in raising their families in a way that was previously impossible.

It has also emerged as a mechanism that enables the elderly, and those with disabilities or long-term illnesses to work. Several participants in the sample were over retirement age and said their home-based work kept them physically, intellectually and socially active, as well as topping-up their pensions. It is unlikely any of them would either be offered employment in the conventional workplace or, as a result of a variety of infirmities, be able to carry it out effectively. One young participant had a long-term illness/ disability that meant he was not able to 'go out to work'. Home-based work meant that he could rest when he needed to, and pace his work according to his condition. He was in the process of slowly building up his own home-based business. This was good for his self-esteem and also improved his standard of living. Having spent years on benefit, he was proud to be financially independent.

An unexpected finding of this research was the potential for home-based work to reduce work-related discrimination. Issues of race, class, gender, age and disability, all sources of discrimination in the conventional workplace, were irrelevant for participants who operated anonymously in home-based work generated through the Internet. This practice gave them the freedom to be judged by their work alone.

In addition, home-based work was found to be a way for people with poor language skills to earn a living, including immigrants, refugees and asylum seekers¹⁸³. It has also been found to provide employment for people who have little education, illiteracy and innumeracy presenting a considerable obstacle to finding paid employment. There is,

¹⁸³ Emerging from an interview with the director of the National Group on Homeworking, Linda Devereux (13.12.06) rather than from the sample

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however, a danger that employers, aware that such workers have few choices, impose exploitative working conditions. This will be discussed in the following section.

Home-based work gave participants from diverse backgrounds and working in a wide variety of occupations a high degree of control over their lives. This made it a popular practice that enabled the sick, the disabled, the elderly, and people who wished to avoid workplace discrimination, as well as people with caring responsibilities, to earn their living, demonstrating parallels with the nineteenth century practice, while simultaneously being able to interweave their hobbies or creative work and housework. This is a benefit the practice offers for future generations.

Another primary benefit that home-based work offers to society is its essential sustainability and its potential to reduce the pressure on currently overstretched transport systems. In 2006, over one million people commuted into central London each day. Their average journey took 55 minutes, although a substantial proportion of commuters spent between 15-20 hours per week (and an ever-increasing proportion of their salaries) travelling to and from their workplace in London (Transport for London, 2006). Seventeen million people in the UK now travel to work by car each day, out of a total workforce of 27 million, and numbers are increasing annually, as is the average length of journeys, which has increased by a third since the mid-eighties¹⁸⁴. Since the 1970s, the distance travelled per year by the average person has increased by nearly a half (Department for Transport, 2006). These trends put our transportation systems under unsustainable pressure and make our cities and roads increasingly unpleasant, and unhealthy, places

Many participants commented on how their physical, mental and emotional health, and that of their immediate families, had suffered as a result of the stress and exhaustion caused by lengthy journeys to and from work. The lack of flexibility inherent in the commuter lifestyle had also created problems around the care of their dependants. As awareness of the impending global environmental crisis spreads, an overwhelming imperative will be to reduce carbon emissions. While only a fifth of the participants in this research mentioned this as a reason for their home-based work, this is potentially one of its most important benefits to society. The authors of the 'Limits to Growth' report to the Club of Rome (Meadows et al.), produced evidence in 1972 that exponential growth in

¹⁸⁴ Until 1914 approximately 90 per cent of housing was privately rented; by 1999 this figure had reduced to 7 per cent, with an additional 23 per cent rented from either local authorities or housing associations. When renting, people used to move regularly. If not engaged in home-based work, their home would usually be close to their job. When they changed job, they moved home. For owner-occupiers, moving house is a far more complex, expensive and disruptive process. As a result people are now less likely to move house, and more likely to travel increased distances to their jobs.

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the consumption of the earth's resources and the production of pollutants such as carbon dioxide, would lead to catastrophic collapse of the earth's environmental systems, unless radical policy changes were made. Thirty-five years later, the same team has produced a follow-up report (Meadows et al., 2004) that shows that such moves were not made in the 1970s, and that limited time remains to put policies in place to avert this, otherwise inevitable, disaster.

Attempts to solve the current transport crisis by modernising the country's infrastructure are likely to be counter-productive. As Jane Jacobs pointed out in her influential book 'The Death and Life of Great American Cities' (1962, printing 1994), and as has been shown by the recent study of the after-effects of the controversial Newbury bypass (Highways Agency, 2004), such moves are likely to increase the volume of traffic using the transport systems, and thus generally make matters worse rather than better. In order to reverse this trend, more fundamental changes need to be made.

Simply because 'transport' is the subject of a policy or report, does not mean that the only areas worth investigating are roads, railways and bicycles. By approaching the problem of carbon emissions and an overstretched transport infrastructure laterally it may be possible to ease the impending crisis in both. A good place to start would be the elimination of unnecessary journeys. In this light, issues around how (and where) people live and work are relevant to a discussion about transport. In 1993 21 per cent of carbon dioxide emissions, arguably the main cause of current environmental damage, were from road transport, 44 per cent of which was a result of journeys to and from, and in, work (Barrett, 1993). A simple, but effective, way to reduce carbon emissions would be to encourage home-based work. The Department of Communities and Local Government¹⁸⁵ supports the idea in principle, as it fulfils many of the strategic aims of central government in terms environmental, social and economic sustainability. However there are currently no policies in place that explicitly promote this practice, or that recognise the potential role of the workhome in the regeneration of the city and the creation of sustainable communities.

It is probable that the workforce will continue to decentralise. Many participants spoke of having sold their second car and/or reduced their annual mileage as a result of working at or from home, or living at their workplace. One had reduced his car-use by 20,000 miles a year, suggesting that his employer, with around 10,000 home-based

¹⁸⁵ ...taking over much of the previous work of the Office of the Deputy Prime Minister from May 2006

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employees, may be credited with reducing both environmental pollution and pressure on the transport infrastructure by many millions of 'car-miles' annually¹⁸⁶. It also seems likely that home-based work also has the potential to reduce the need for, and/or size of, centralised workplaces, and consequently reduce emissions on both the construction and the heating and cooling of such buildings. These, however, are complex issues that require further specialist research.

The benefits, to the individual, the neighbourhood and society at large, especially in terms of equal opportunities and sustainability, have been found to be substantial. The future for this practice potentially looks bright.

Disadvantages of the practice

In this research having found that the vast majority of participants enjoy home-based work, disadvantages have been approached with a view to their reduction or removal. The stimulation of a debate around these issues may also contribute to a reduction of negative perceptions of home-based work. This could have a widespread benefit for the substantial, and growing, proportion of the working population of England working at or from home, or living at their workplace.

The lack of employment regulation is one aspect of home-based work that has justifiably received a great deal of negative publicity. The lack of a collective workplace, and consequently of collective power, has led to widespread exploitation of the most vulnerable members of the home-based workforce, in terms of rates of pay and conditions of employment (Phizacklea and Wolkowitz, 1995). The employment conditions of the home-based worker currently depend greatly on their employer, or themselves if self-employed. Two participants represented the shadowy population of unregulated piece-workers¹⁸⁸. One enjoyed good conditions and earned almost twice the National Minimum Wage (NMW) per hour, while the other was in dispute with her employer about her status and was paid considerably less than the NMW. While communication between home-based workers has transformed as a result of advances in telecommunications and information technology, thereby improving their ability to organise collectively, the most vulnerable sector of the home-based workforce is least likely to have access to the technology that enables such communication. In the context of home-based work becoming an increasingly popular employment practice, aspects of its regulation need to

¹⁸⁶ BT employees save on average 12 million litres of car fuel a year through home-based work (BRITISH TELECOM, (2006) www.btinsights.co.uk/flexibleworkingresources (Accessed on 4.6.06).)

¹⁸⁸ 'Homeworking': formerly called 'sweating', unregulated poorly-paid piece-work formerly in manufacturing and often now involving tele-sales or packaging.

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be addressed. The introduction of the National Minimum Wage (NMW) in 1999 was an important first step. The most recent research by the National Group on Homeworking (NGH) found that 84 per cent of those interviewed in their 2004 study were receiving the NMW 'most of the time'. This is a marked improvement on the low wages reported in the sector in 1990 (West Yorkshire Homeworking Group). A further mechanism is the Ethical Trading Initiative (ETI)'s Base Code of Conduct, introduced in 1998 to protect workers at the bottom of the supply chain. However, only 18 per cent of the NGH sample described working conditions that did not breach any part of this (Bril, 2004 p12). A maybe unexpected outcome of the NMW is that most home-based manufacturing work has now been relocated to less economically developed countries. The last of the UK's Christmas cracker manufacturers, employing a large team of UK homeworkers 12 months of the year, reluctantly relocated to China in 2005. Although engaging in negotiations with the National Group on Homeworking to ensure their home-based employees were paid the minimum wage, and wishing to remain in the UK, this firm found that the relocation of its competitors meant that they had to follow suit, thus exporting the problems¹⁸⁹.

As the UK home-based worker is now entitled to the NMW, and their work may be measured against the ETI's Base Code, improvements can be seen in the conditions of this most vulnerable sector of UK home-based workers. The lobbying and advocacy work of the NGH is slowly transforming the practice for the workforce (Bril, 2004 p12). As the home-based workforce grows, this work will become increasingly important. It is imperative that these problems, affecting a small, although obviously important sector of the home-based workforce, are not allowed to dominate the discussion of home-based work.

A number of other social disadvantages to home-based work were experienced more widely. A fifth of the sample expressed concern about social isolation, an issue that is often raised as an inevitable consequence of home-based work. There is, however, no intrinsic difficulty. The medieval peasants of Wharram Percy and the nineteenth century home-based weavers of Coventry did not suffer from isolation. But medieval work often required a collective effort, while informational work increasingly individualises. As the contemporary home-based workforce grows, the development of collective structures and strategies to avoid social isolation will become increasingly important.

Contemporary home-based workers currently have to take responsibility for their own

¹⁸⁹ Interview with Linda Devereux, director of NGH, 13.12.06

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Figure 174: The allotments at cash's cottage factory in Coventry converted into a carpark



Figure 175:
Contemporary
neighbours chat outside
cash's cottage factory

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social wellbeing within a fragmented and largely invisible sector. Most participants were successful in this, but for some it caused a problem. A few raised the issue of depression resulting from spending too much time alone. This echoes the isolation that was experienced by the first inhabitants of the Becontree Estate, plucked from the noisy, busy working/living environment of the courts of the East End. There the stay-at-home wives developed an inward focus that, it could be argued, is reflected in most people's home-life in contemporary English society. 'Going out to work', on the other hand, has social interaction built-in, as well as a sense of being out in the world. But these structures and attitudes are constructs, generated by the prevailing economic system. It is symbolic that the central allotments at Cash's cottage factory, converted to social housing in the 1980s, are now in use as a car park [fig 174]. However the intrinsic form of the development appears still to encourage social interaction. At both the front and at the back of the terraces, neighbours were found standing outside their dwellings, chatting [fig 175].

While it is clear that the spatiality of informational capitalism is different from that of industrial capitalism, the ramifications of this have not yet been fully acknowledged or acted-on. This may be another example of different systems existing side by side, a new economic system being overlaid on an existing spatial system. Some of the participants were part of deliberately planned 'live/work' communities. Others spoke of spontaneously occurring communities among creative people inhabiting cheap industrial premises. Both structures were effective in providing the social interaction and sense of community necessary to prevent them from feeling isolated as home-based workers. One of the goals of the Live/work Network is to popularise the 'work hub', providing shared facilities to bring together and support home-based micro-businesses. Another is to develop specific business-clusters within developments of workhomes (Dwelly, 2006b). Both initiatives have the potential to encourage the development of lively communities of home-based workers, thus reducing the danger of social isolation. Once governance systems support and encourage the home-based work movement, allowing the whole sector to shed its cloak of invisibility, a range of structures and initiatives could be developed to facilitate social interaction among the home-based workforce.

A further social disadvantage to home-based work, raised by many participants, was distraction. While pre-industrial workers, such as Silas Marner, regulated their own work, the exploitative and paternalistic¹⁹⁰ employment practices developed in the industrial revolution reduced levels of self-motivation and self-regulation in many areas

¹⁹⁰ "Paternalism: the policy of restricting the freedom and responsibilities of one's subordinates or dependants in their supposed best interests." Concise Oxford Dictionary

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of employment. This is a phenomenon that still affects the contemporary workforce. Brought up to respond to authority as a primary way of managing their behaviour, the home-based workforce can find itself without the external authoritarian structure it needs to manage its work. Without a boss overseeing their work, or the peer pressure of colleagues to keep them at it, nearly a quarter of participants struggled with distraction from a wide range of sources. Having said that, many participants expressed relief at not having to deal with the distractions of the conventional workplace.

Time is the conventional management tool for the workforce. Its most extreme form is the factory 'clocking-on' system, in which the worker punches a card on their arrival to mark the exact moment they start work. However, work targets are emerging as the most effective management tool for home-based work, for both employees and the self-employed (Fenson and Hill, 2003). As long as the worker achieves their targets, they can work whenever they choose. Most participants self-regulated their work in this way, internalising the authority structures that operate externally in the conventional workplace. One took nine months of being "...utterly inefficient and unproductive..." before he learned how to be efficient with his time (LW43). Others used distraction as a method of taking breaks from their work, often weaving small domestic tasks into their day. If home-based work became a dominant employment practice, it is likely that the internalisation of these authority structures would become a priority, potentially addressed as a part of a child's education, returning to the self-regulation that could be seen in pre-industrial times, that enabled the practice of 'St Monday' and even 'St Tuesday'.

In a similar vein, many participants were suffering from a lack of exercise. Once again they had to internalise responsibility, this time for their own wellbeing, and develop strategies for overcoming this. Solutions ranged from cycling long distances at lunchtime to source the evening meal, to having a punch-ball in the living room. But the potential demand exists for a range of collective neighbourhood exercise facilities.

In addition, many participants had a tendency to overwork. For some, especially artists living and working in conditions not dissimilar to those portrayed by Eliot for Marner in his solitary years, their passion for their work over-rode 'normal' patterns of existence. This was a chosen lifestyle and related to the creative nature of the work. However, for some participants there was a tendency to overwork that was neither creative nor healthy. The close physical proximity of 'work' and 'home' meant that they were continually tempted to continue working instead of getting on with other parts of their lives. The

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need to develop self-discipline was a recurrent theme throughout the interviews; the majority were achieving this. However, in some cases, in relation to overwork, they were unsuccessful and unhappy with this. Degrees of spatial separation between the 'work' and 'home' elements of the workhome will be discussed later in this chapter. For home-based workers struggling to control their work habit, a greater degree of spatial separation may be helpful. This can be incorporated into the purpose-designed workhome without difficulty, either in the form of a 'live-nearby' or a 'live-adjacent' spatial solution.

The internalisation of these authority structures may turn out to be another positive consequence of home-based work. One of the distinctions between white-collar and blue-collar work, in general, can be the extent to which they have control of their time and work. However, as the example of the pre-industrial weaver or peasant farmer shows, there is no reason why people working in any occupation may not be able to manage their own time and work. The removal of such external authoritarian structures, and successful adjustment to being self-managing, is likely to have the effect of raising people's self-esteem and reducing alienation.

More than a third of the sample were employers and a number of participants raised questions relating to the employment of employees as a home-based worker. However, in general these issues seemed to be essentially spatial; design may play an important role in their resolution. These will be discussed later in this chapter.

For the vast majority of participants (71/76), the advantages to home-based work outweighed the disadvantages. An analysis of the disadvantages suggests they may, without difficulty, be educated, designed or governed away. As home-based work makes an increasingly important contribution to the UK economy and culture, policies are needed, in the fields of education, the built environment and governance, that support and encourage this practice, developing a culture of home-based work and raising the status of the home-based worker, rather than penalising and obstructing it.

Despite the size of the home-based workforce, there remains a negative perception that people who work at or from home are not 'proper' professionals/ employees/ workers. The overwhelming impression, however, on gathering the evidence from the interviews, was of a highly focused, hard-working, over-conscientious group of people. Many participants expressed frustration at the lack of respect they were accorded by their

¹⁹¹ The issue of tenancy agreements discouraging or forbidding home-based work in social housing is discussed in the next section.

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friends and relations for their home-based work. Fending off unwanted telephone calls or visits during the working day caused as much of a problem as social isolation. Once again, individual home-based workers had to take responsibility for setting boundaries around their work-time. Some achieved this more successfully than others. Some found the anti-home-based work discrimination to be such that they needed to disguise the fact that they were a home-based worker from their clients or customers. But others reported a shift in attitudes, enabling and encouraging them to work openly at or from home.

Home-based work, far from being a throw-back to a pre-industrial age, has been found to be an efficient, enjoyable, family-friendly, modern working practice that offers freedom and equal opportunities to people working in a wide range of occupations, in part as a result of advances in information technology and telecommunications. There are undoubted disadvantages to the practice, including distraction, social isolation, a lack of employment regulation in some areas and a tendency to physical inactivity and overwork. It seems probable that under informational capitalism there will be a steady increase in the size of the home-based workforce. Once policies are developed that start to acknowledge, reflect on, and facilitate this trend, it may be possible to generate a positive culture of home-based work around which employment practice, buildings, and neighbourhoods may be constructed.

Workhomes of the future

This section looks at how the findings of this research may be useful in the design of future workhomes. While these hybrid buildings have been built in England for centuries, the tradition largely died out in the twentieth century. The recent spate of live/work units, many of which have been designed without a detailed knowledge of the spatial or environmental needs of their future user-group, is an exception to this. The collective experience of the participants in this research contributes detailed first-hand knowledge about the spatial and environmental requirements of users of this hybrid building type. An analysis of this may provide guidance for the design of future workhomes appropriate to the needs of the contemporary home-based worker.

A number of design issues have emerged, in general thrown up by a poor 'fit' between the nature of the buildings in the sample, and the functions they were accommodating. Overall it was found that working at home suited the participants to such an extent that they were prepared to carry it out in whatever space they had available. As a result, the nature of the space and its configuration was often determined by the context. Urban

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home-based work was usually found squeezed into the terraced house, flat, or industrial unit, or in the form of purpose-built hybrid buildings. Suburban home-based work, with space at less of a premium, was found in converted or re-built garages, or in sheds or 'home lodges' in the gardens of semi-detached houses. Rural home-based work was found in tiny cottages, in larger houses, in traditional purpose-built hybrid buildings like shops or rectories, or in extensive premises built next to a house.

But the fact that participants were carrying on their home-based work in whatever space they had does not mean it was ideal. It would be wrong to conclude that there is no need for purpose-designed workhomes. The 25 pages of closely typed 'disadvantages' might be read as a design guide for this 'new' building type. Some problems, including spaces without natural light or ventilation, had health and safety implications. Most caused inconveniences and irritations that reduced the efficiency and/or well-being of the home-based worker.

Central to four of the five participants who did not like home-based work, was the issue of how their space/ workhome was perceived by the outside world. Competence in a wide range of occupations is often initially assessed by whether a person looks as if they can do the job. People in a wide range of occupations construct a 'work persona' through dressing and behaving in a particular manner, and inhabiting a certain sort of space. Rituals of power, embedded in socially constructed space and personae, aimed at generating fear and respect, are in operation here.

Lefebvre's ideas about the social production of space help us to understand the spaces of 'home' and 'work' in relationship to industrial capitalism. In addition, his triad of different types of space provides a conceptual framework for the interpretation of the participants' home-based work/workhomes. 'Lived' or 'representational' workplaces, as disseminated by film, television, advertising, and architectural books or journals, tend to be distinct for different occupations. The corporate office, the architect's office, the factory, the hairdressing salon and the artist's studio, for example, all conjure images of a particular type of space: some formal, even opulent, some casually chic, others clinical and hygienic or chaotic, untidy and even dirty. They are usually impersonal and do not incorporate children or domesticity. This research suggests that there may be a relationship between the extent to which the workhome correlates with the representational workspace of the participant's occupation, and the extent to which they enjoy their home-based work.

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LW06 is an academic who inhabits a three-storey Victorian terraced house in East London; she has three children. She combines teaching and research at a university outside London, and works at home between two and four days a week. She has a small single-storey purpose-built study, designed to her precise requirements, extending into the garden behind her kitchen. Simply planned and executed, it consists of a full width fitted desk with a horizontal window above it at the eye height of a seated person, and some bookshelves. There is no door between the study and the kitchen. She has the house to herself during the day, when she carries out all her 'serious' work. Emails are left to the evenings and weekends, carried out in tandem with her domestic work and caring responsibilities.

This space first existed in her memory, fitting into Lefebvre's 'lived' category, representational spaces. Childhood recollections of the book-lined study where her academic father worked created in her mind an idea of a 'grown-up' workspace, a 'proper' study where 'proper' work was carried out. She visualized a space that would help her to nurture her productive identity: LW06, thinker and writer, rather than LW06, wife and mother. It was a space in which she would be able to bury herself in her work, reinforcing her status and identity as a serious academic, surrounded by a library of cherished books, closely linked to, but separate from, the family spaces. She "fought to have [her study] purpose built". A corner in a bedroom or an alcove on a stair would not adequately have met her needs. It was important to her that her new space embodied her internalized understanding of a 'proper' study. There was no external work-generated driver to this, as neither her students nor her colleagues visited her home-based workplace. But she needed to carve out a space for herself that announced 'work' to her husband, her family, her friends and, maybe most importantly, to herself.

Her workspace next existed in the imagination of an architect, whose two dimensional drawings aligned with Lefebvre's 'conceived' category as representations of spaces. While apparently merely describing the accurate size and positioning of walls and floors, doors and windows, services and appliances, these drawings also embodied a coded response to LW06's intellectual, emotional and physical ideas about the spaces of her future study. In addition, they introduced a further concept of 'space', the space of Modernism. Uncluttered and undecorated, with a sliding planar glazed wall instead of a traditional hinged door to the garden and a wrap-around window with the corner structure removed [fig 176], the spaces proposed by the architect are Corbusian, drawing much from the seductive images of workplace that fill the pages of architectural books and

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Figure 176: Wraparound window to LW06's study

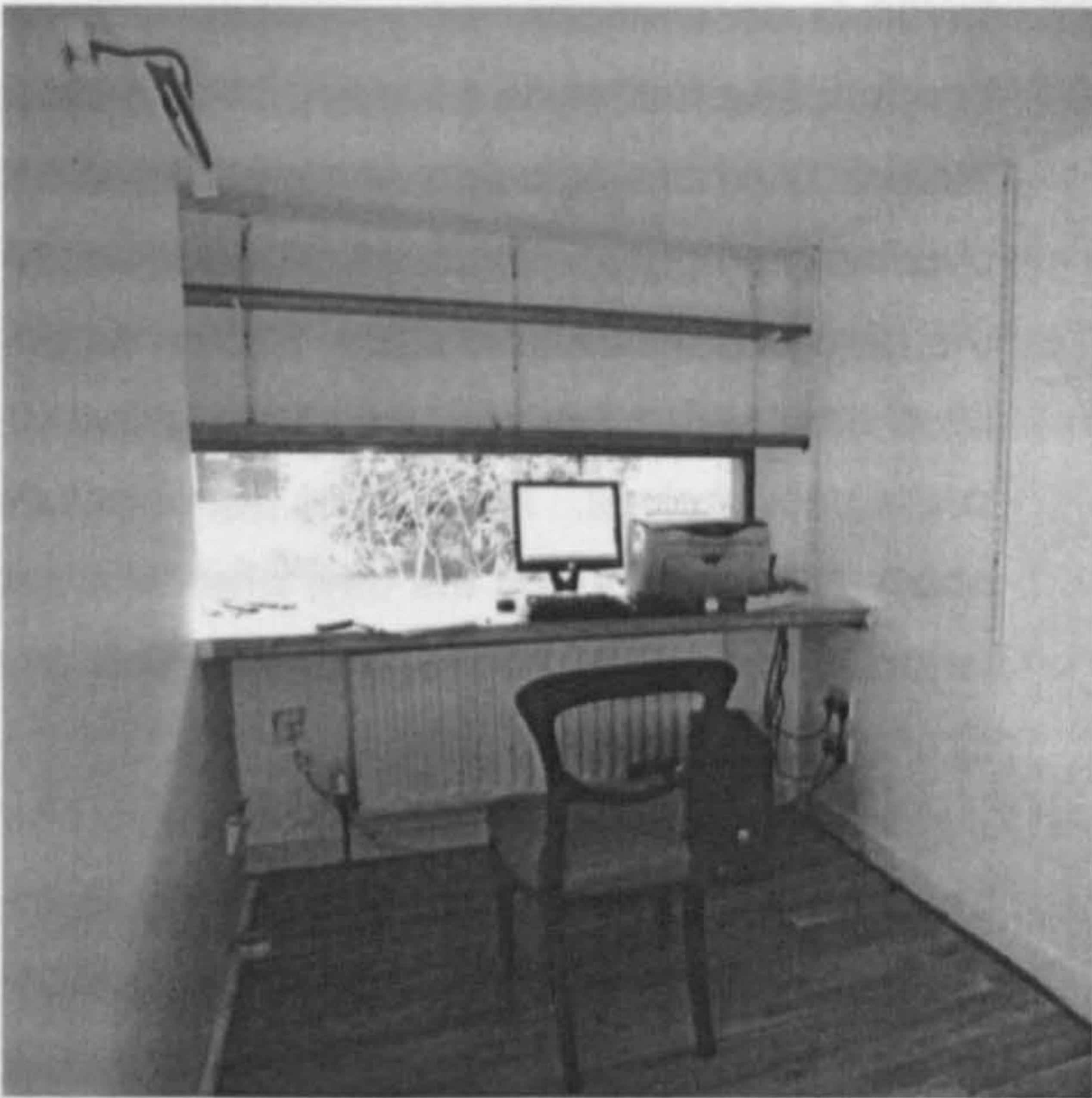


Figure 177: LW06's study empty



Figure 178: LW06's piles of books, papers and artefacts



Figure 179: LW06's desk with kitten

magazines.

Once built, the study entered the realm of 'perceived' space, interweaving the social and the spatial. Deliberately positioned between kitchen, washing machine and garden, it facilitates the invisible, unpaid work of laundry, cooking and gardening, carried out as a way of taking breaks in the paid work. Often cooking and emailing simultaneously, LW06 takes pleasure in making the family's meals during her working day, her intellectual and domestic work being completely integrated. There is no door to the study because LW06 has "no boundaries with the kids". What is "...private space during the day transforms to public at night." The creation of her study in the public realm means that serious work can only be done while the family is out of the house. LW06's space is diminutive at seven sq m, however her perception is that it is "really big". This may be in comparison with her partner's workspace, which is both smaller and less favourably positioned. It may also be a reflection of her sense of privilege at having a specific space of her own. While there is a tradition of male private space in the home (in particular the study and the shed), the female domain is usually the kitchen. It is rare for women to have a private 'space of their own'. Authors such as Virginia Woolf and Vita Sackville-West provide the exception to the rule.

LW06 struggles with the dialectic between the 'lived' and 'perceived' spaces of her study. While the mental image that she holds of her study is a combination of that of her father's study and that of the cool, empty, ordered space of the architectural magazines, the complexity, and reality, of her life imposes itself on her study in the form of clutter, including precious mementos from friends, parents and children, tasks un-finished or un-filed. During the period of this research she went through a process of clearing evidence of her domestic world from her study. Children's art works and schoolwork were discarded, cards and photos were banished. The first interview revealed a completely empty study and piles of books, papers and artifacts that were being sifted to determine their right to a place in her study (fig 177, 178). During the second interview, the study was ordered, with limited personal items on display [fig 176]. Some months later the study was viewed "as she really likes it". On this visit the space had filled up. A new kitten played on the desk as LW06 worked [fig 179]. Cards from family and friends were propped against books. Children's drawings were piled in a corner. A journal and a book, of interest to this research, had deliberately been left on show [fig 180]. This was a serious working space, tinged with Hepworth's "...jumble of children, rocks, sculptures, trees, importunate flowers and washing". LW06 was still struggling to overlay the space as she actually used it with her idea of what the space 'should' be like.

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Figure 180: LW06 left books in display that were of interest to this research



Figure 181: An architect thought his clients did not take him seriously because he was home-based



Figure 182: Artist's workhome without bathroom or wc (LW24)

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Of the five participants that did not like home-based work, the primary reason given by four was dissatisfaction with the spaces they inhabited because they did not coincide with their idea of what their workplace 'should' be like, i.e. the 'lived' or representational space. The domestic scale of the spaces was a particular problem for them. Such spaces were not thought to meet clients' expectations. Two of these participants thought clients did not take them seriously because they worked from home and this was limiting their career progress [fig 181], while two others ensured their clients never came to their workhome [fig 93].

The attitudes of another five participants, all living somewhat eccentric lifestyles in open-plan dual-use spaces, were also interesting in these terms. The negativity of one, a start-up businessman, was in direct contrast to the creative and purposeful existence of the other four, who were artists. They all inhabited similar accommodation with an equally minimal degree of domestic comfort [fig 111, 93]. Three of the artists even had to use communal toilets (and in two cases communal showers) external to their workhome [fig 182]. This was not, however, a problem for them. In each case they embraced the open-plan unconventional space they inhabited. The difference in attitude may be because the spaces the artists inhabited correlated closely with the 'lived' or representational space of the 'artist's studio', filled with artefacts, equipment and half-completed pieces of work [fig 111], whereas the very similar space the businessman inhabited did not match the 'lived' or representational space of a corporate office [fig 93]. For the artists, the unconventional, non-domestic nature of the spaces reinforced their identities as artists. For the businessman it merely served to remind him that his business was not, as yet, successful.

In general the participants appeared to tackle this issue by getting their workhome to approximate as closely as possible to the 'lived' or representational workspaces of their occupation or profession. This was often achieved through a spatial separation between the public and the private parts of their lives, and the creation of 'residential' and 'workplace' spaces of differing characters. A licensee and a newsagent kept their family lives private and separate from their paid 'work', with first floor residential accommodation above ground floor 'workplace'. The spatial separation meant that the fact that they inhabited a workhome was not evident [fig 183, 184]. A similar degree of separation was achieved by the furniture-maker living above his workshop [fig 96, 97]. In both cases the different characters of the spaces correlated precisely with the 'representational' spaces of the two functions .

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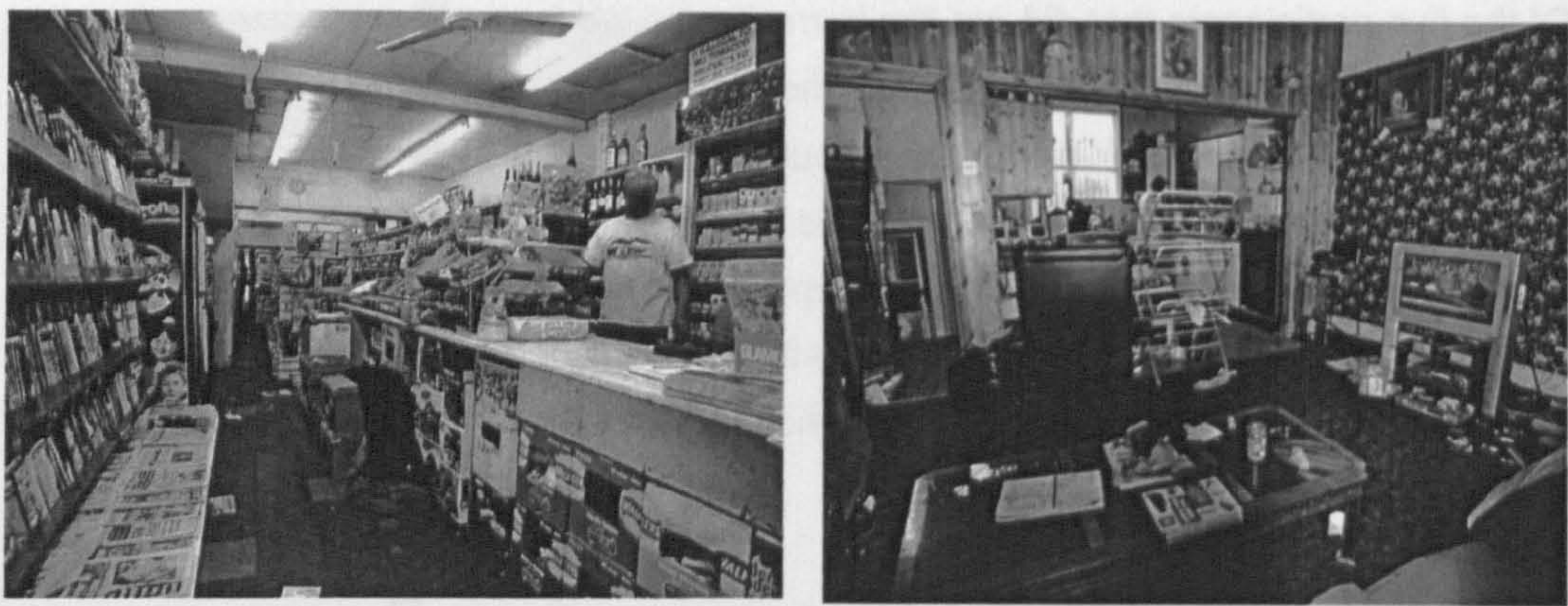


Figure 183, 184: ground floor workspace, first floor living space (LW05)

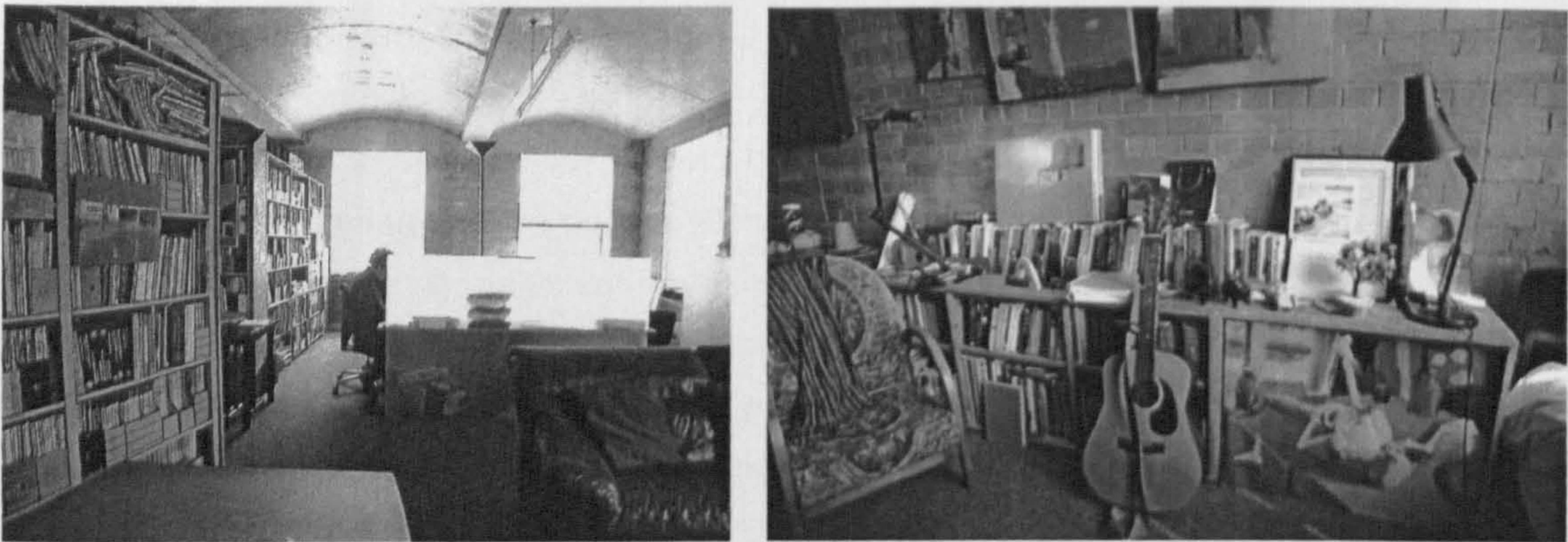


Figure 185, 186: Architect's public and private space (LW45)

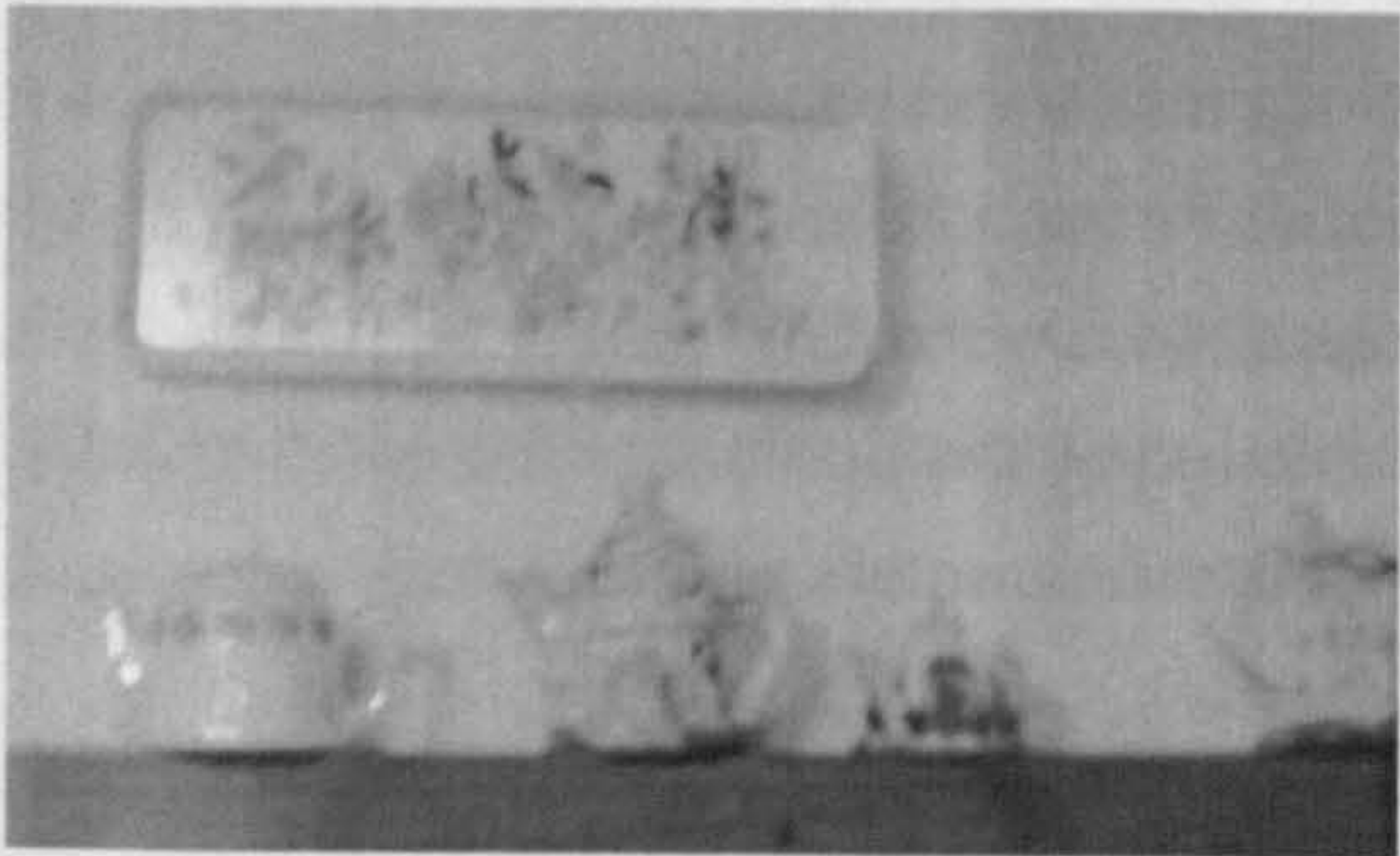


Figure 187: Care-worker's trinkets (LWR20)

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The street façade of the building surveyor's two-storey terraced house gave no indication that this was a workhome. But the interior of the Portakabin in the back garden met all the expectations of the representational space of a surveyor's office [fig 145]. Although the interface between the street and the office was problematic for visiting clients or builders, this participant was not concerned about the mismatch between this aspect of the representational space of his workhome and that of a conventional surveyor's office. This contrasted with the open-plan live/work unit set up as a conventional architect's office, featuring a double bank of desks with four computer terminals, a meeting table and a pair of large sofas [fig 112]. There were no clues that one of the partners of the practice also lived there. A large bookcase containing a technical library and files, and a folding storage unit screened a small 'private' space, containing the bed, armchair, television and private possessions of the home-based worker, amounting to less than a fifth of the overall floor area. While the 'office' space conformed to the 'lived' space of the architect's office as portrayed in architectural journals, lacking intimacy of scale, materiality and without personal possessions on display [fig 185], the private space was the opposite, conforming to the representational spaces of 'home', a cluttered, intensely personal and womb-like space [fig 186].

Modern forms and materials were chosen to contrast and differentiate the graphic designers' second floor studio, deliberately designed to accord with the 'lived' spaces of a design studio, from the Victorian domesticity of the house below [fig 105]. However the journey up to the workplace was problematic. It was too personal, too intimate, and transgressed the 'norms' of the professional office. In order to minimize this, the public areas of the house were kept spotlessly clean and tidy and without personal items on display (LW04). By contrast, the residential care-worker used trinkets in an attempt to de-institutionalise the care-home in which she lived, and to get it to correlate more closely with the 'lived' space of 'home' [fig 187] (LWR20). The writer/psychotherapist had ornaments by the bed and soft, feminine bedcovers to get her sleeping space to conform to the 'lived' space of a bedroom, while the paraphernalia of her writing meant the space the other side of the partition conformed to the 'lived' space of an office [fig 121, 122] (LW44).

Top-lit and sparsely furnished, with planar white walls and high ceilings, one work/live unit matched the representational spaces of the live/work unit as portrayed by the design magazines [fig 109, 110] (LW35). Another, a simple rectangular open-plan space, had one end organised around the requirements of work, while the other was furnished to

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meet domestic needs [fig 113, 114]. Read as a whole, this space also conformed to the 'lived' space of the live/work unit as represented by the design magazines (LW07).

Two participants, both architects (LW26, LW40), used their self-designed studio-houses as "living, breathing [business] cards" for their practices, despite the fact that they did not, in some ways, perform well as workhomes. Fluid, well-proportioned double-height spaces characterised both, with elegant forms, large areas of glazing, and modern, carefully detailed materials all signalling 'good design' to their prospective clients. The fact that both were problematic acoustically and one performed poorly thermally, that spatially there were problems of adjacency in one and the kitchen table proved a better working space than the specially designed work-area in the other, was irrelevant. The crucial thing was that these two award-winning workhomes aligned perfectly with the 'lived' spaces of 'architect's studio-house'.

A major challenge in the design of these hybrid buildings is the accommodation of many home-based workers' need both for their workspaces to conform to the 'lived' spaces of 'workplace', across a wide range of occupations, and their home spaces to conform to the 'lived' spaces of 'dwelling'. The spaces of the 'live/work unit' often match the 'lived' or representational spaces of workspaces for people working in the creative industries. In other sectors, such as corporate business, a different model is required. This is a challenge that has not previously been recognised in the design of the workhome. It opens the field to numerous fresh approaches, as spaces that are usually kept separate are juxtaposed within single buildings.

The central spatial issue that emerged from the research was the degree of separation between the 'dwelling and 'workplace'. People wanted to live and work in radically different ways. A number of types emerged, involving both determinate and indeterminate spatial solutions. These produced spaces and buildings appropriate to disparate elements of the home-based workforce.

Most participants' workhomes consisted, at least in part, of dual-use spaces that transformed according to time of day or function. Some used the subtle movement of furniture, and the adjustment of lighting to soften a space at the end of the working day [figs 160, 161]. But there were problems associated with this. One participant had to rearrange the furniture in her main living space once or twice a week to set-up photo shoots [figs 188, 189]. Another was embarrassed about breakfast crumbs on a kitchen

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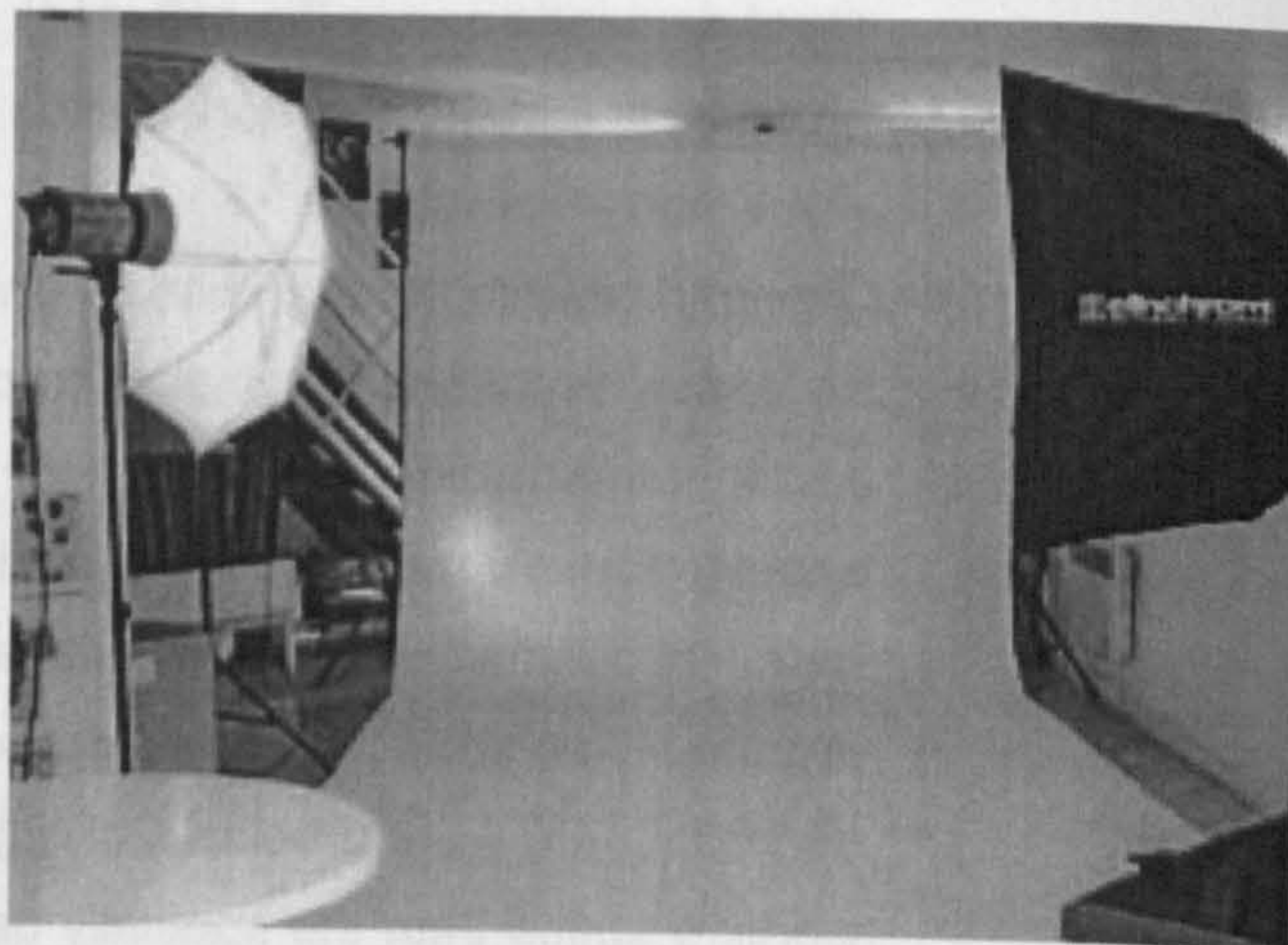


Figure 188, 189: Photographer's living room before and after it was converted into a studio (LW03)

Figure 190: Architect's dining table doubled up as a meeting table (LW43)

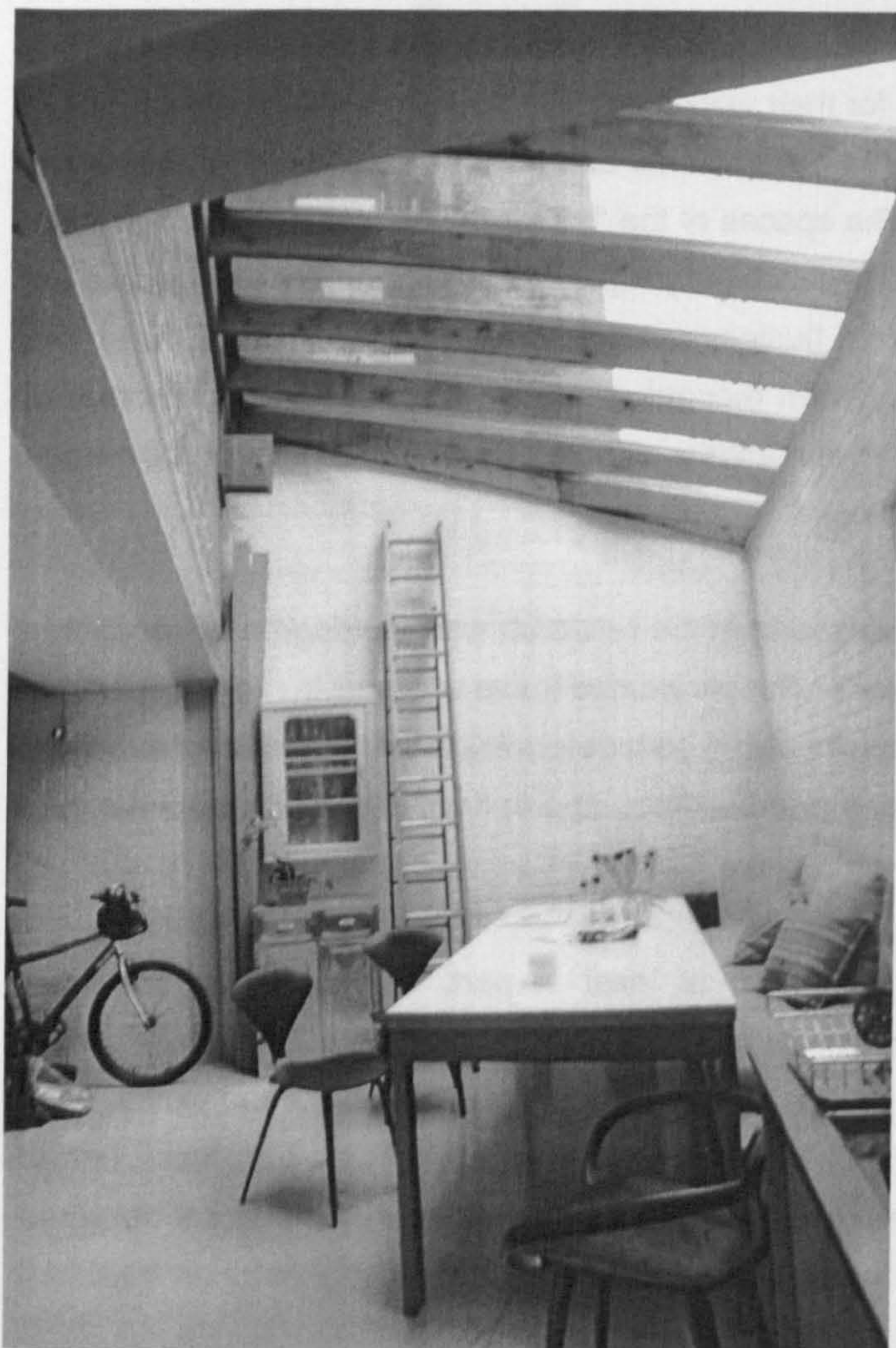


Figure 191: Photographer's studio, invisible from the street (LW29)

table that doubled up as a meeting table [fig 190]. Some dual-use spaces had been manipulated to minimise a perceived negative impact of two activities in a single space. Most participants wanted a dedicated workspace.

Buildings that did not incorporate a dedicated workspace ranged in terms of the proportion of residential-only to dual-use space. This resulted in workhomes with radically different identities. In the live/work unit of one architect, the living area was concealed from public view (LW45). In the detached 'executive' house of the senior BT manager, there was no attempt to create an illusion of a professional workspace (LW18). While the architect's personal 'living' space amounted to less than a fifth of the floor area of his live/work unit, the BT manager's workspace amounted to less than a tenth of the area of his house.

Similarly different approaches were visible amongst buildings with dedicated workspaces. One participant used a lower-ground-floor room in his three storey end-of-terrace house as his studio. It was an intensely professional space that took up an eighth of the overall floor area [fig 191], but from the street the dual function of the building was invisible. In contrast to the previous example, in the case of the National Trust historic building, the live-in manager's accommodation took up only a tenth of the overall floor area and the residential accommodation was not discernable from the street.

A degree of complexity emerged that, especially when these basic types are overlaid with different patterns of use [see table 9], does not underpin the design of most contemporary workhomes. Without a 'map' of the contemporary home-based workforce, there has been a tendency for the 'live/work' building, the most common contemporary form of new-built workhome, to be designed on a 'one size fits all' basis. The lack of clarity about the end-user has often led to the design of buildings that did not meet the needs of their inhabitants. Generally indeterminate spaces with minimal internal spatial subdivision, these have often adopted the 'open-plan double-height space with mezzanine' spatial model. This has been shown to suit only the 'obsessive artist' user-group. This tendency seems to have arrested the development of the field of workhomes overall. In reality, the generic idea of 'workhome' has the potential to generate as many models as the generic idea of 'dwelling'. We are used to the idea that there are an endless number of different models of 'dwelling', from bungalow to palace, tipi to igloo. There are an equivalent number of different models of workhome. The surface has hardly been scratched. This offers extraordinary opportunities to designers and volume house-builders. It seems likely that once this building type is acknowledged, and accepted into the contemporary

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architectural lexicon, demand will soar.

Although there are endless possibilities, four dominant models emerge. These are outlined here and illustrate the diverse potential of the workhome. Each of these models is familiar, but few modern buildings are designed along these lines, despite maybe a quarter of the working population in England engaging in home-based work for at least a day a week.

o **Model 1 ('juggling parents', 'professionals', 'top-ups' and 'students')**

The first is primarily a residential building, incorporating either dual-use spaces or a dedicated workspace. The workspace may have its own entrance onto the street or may be in a separate building a small distance from the dwelling.

o **Model 2 ('backbone of the community')**

The second is a workhome with self-contained dwelling and workplace elements, each with an entrance onto the street. They may be located adjacent to each other (in which case there may be an internal linking door between the two) or a small distance apart. While the dwelling element is domestic in scale, and private, the workplace element may be non-domestic in scale. It may accommodate a wide range of occupations, clean and quiet, or noisy and dirty, and have the potential to be a public or semi-public space.

o **Model 3 ('obsessive artists')**

The third model is a spatially and functionally indeterminate building, non-domestic in scale, designed to accommodate a wide range of different occupations, clean and quiet or dirty and noisy. A large-volume open-plan space, this model offers a high degree of functional flexibility.

o **Model 4 ('live-in')**

These buildings consist of a house or flat integrated into an institution the home-based worker is employed, in part, to look after.

The workspace elements of these buildings often need a high level of natural light, an extensive electrical installation and a high-speed broadband connection, as well as the capacity to be heated separately from the rest of the building. All workhomes benefit from high levels of thermal insulation and a high degree of acoustic separation from neighbours, between spaces, and from outside.

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This research has unearthed a variety of home-based workers. There is scope for the design of, and may be a market for, workhomes organised around the social, spatial and environmental requirements of a range of these different user-groups.

In this thesis, home-based work has been identified as an equal opportunities practice, enabling people who may have problems working in a conventional environment to be economically active. However this is an untenable position in the context of contemporary attitudes to space standards in social housing¹⁹¹. A shift to home-based work signals an immediate problem for people with inadequate space. An analysis of the building sample by area showed no relationship between the size of the space and the degree to which participants enjoyed home-based work (see Appendix 14). However, the social housing in the sample was considerably smaller in terms of floor area per occupant¹⁹² than the other buildings in the sample. Current space standards in English social housing, and in much of the new private sector, especially the 'starter-home' market, are minimal. This creates a problem for the social tenant home-based worker, and their private sector counterpart, that is likely to be exacerbated as the practice becomes more widespread. These space standards need to be reconsidered. Dutch social housing is sometimes built with an additional room, usually too small to sleep in, named a 'hobby room'. This might be an interesting model to investigate. Starter-home private sector housing was an omission from the sample for this research, possibly because of the geographical areas studied.

A recent report on housing space standards for the Greater London Authority (GLA) (HATC Ltd, 2006) proposed 'safety-net' space standards for housing development, measured as Minimum Internal Dwelling Areas (MIDA)¹⁹³. Two participants in this research, both single-parent childminders, inhabited social housing with minimum internal dwelling areas at the level proposed in this report. While neither complained, it was apparent that they had made substantial spatial sacrifices to accommodate their home-based work. The remaining participants' workhomes were, without exception, larger than the MIDA, and on average they were nearly three times the proposed MIDA. The space the funeral director inhabited (partially shared during the day with two colleagues) was more than seven times larger than the MIDA. The HATC report mentions home-based work only in passing, the sole outcome appearing to be the necessity for bedrooms to be large enough to study or work in. In this research this approach has been found to be problematic.

¹⁹² Three of the four examples of social housing in the sample came in the five smallest area/occupant in the sample. [See Appendix 14]

¹⁹³ See Appendix 14 for proposed Minimum Internal Dwelling Areas.

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Home-based work meets the report's criteria for sustainable development:

"These aims should be pursued in an integrated way through a sustainable, innovative and productive economy that delivers high levels of employment, and a just society that promotes social inclusion, sustainable communities and personal well-being, in ways that protect and enhance the physical environment, and optimise resource and energy use." (HATC Ltd, 2006)

This could have been written with home-based work in mind. However, it appears that the spatial requirements of home-based work were given little consideration in the development of the MIDA. There is a danger that this will result in the development of dwellings, and particularly social housing, in which it may be difficult to combine the functions of dwelling and workplace. In this period of crossover between industrial and informational capitalism, it would lack foresight to put space-standards in place, albeit ones that are intended to be a safety-net below which building is not permitted, that do not take home-based work into account.

In the private sector, people may be able to turn a spare bedroom into a workspace or build a shed in their garden, but in social housing this rarely possible because of both the low space standards to which such housing is built and allocations policies that do not allow for a 'spare' room. This can result in overcrowded conditions for social tenants involved in home-based work, and represents a form of discrimination. It appears that two courses of action are necessary. Firstly the adjustment of the minimum space standard to take account of the spatial requirements of home-based work, and secondly a change to social housing allocations policy to allow tenants engaged in home-based work to have an additional room.

This would also have an impact on employment in households in social housing, nearly half of which are workless, according to a recent Government paper (2006c p6). It is probable that a cost-benefit analysis, taking into account issues such as potential reductions in the uptake of benefits, reduced pressure on the transport infrastructure and reduced personal stress, would show this to be a worthwhile investment. One of the inducements to home-based work for some, particularly 'live-in', participants was the prospect of accommodation substantially larger than the minimum space standard. The school caretaker, for example, had moved from a damp cramped council flat, to a spacious caretaker's house surrounded by a large school playground where his children could play when the school was closed.

Current space standards and allocations policies discriminate against social tenants in home-based work. While this could easily be rectified, such a change requires a major

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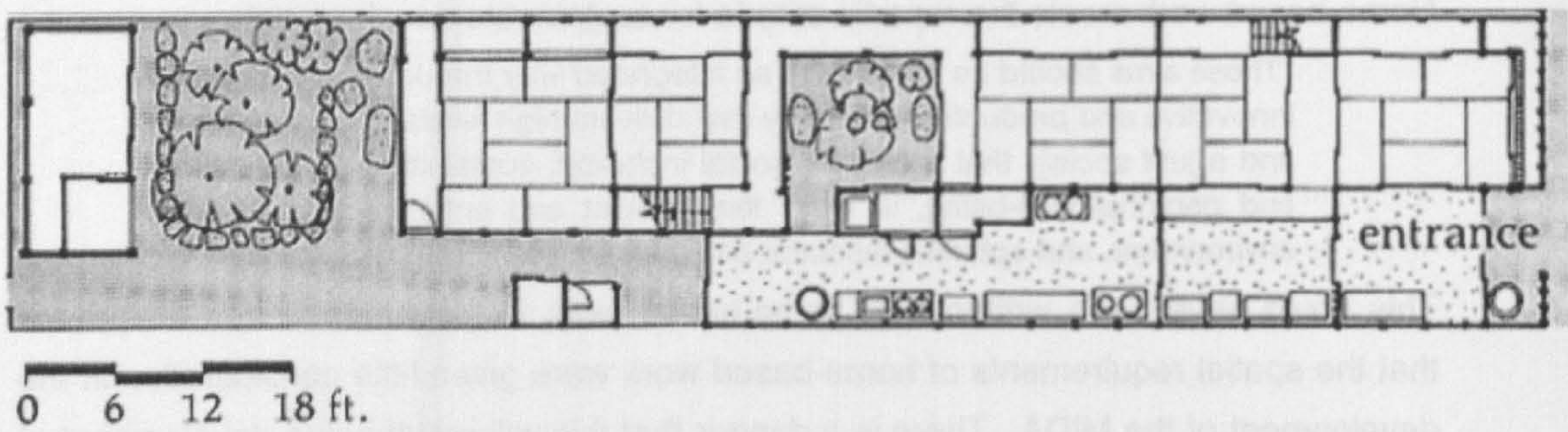
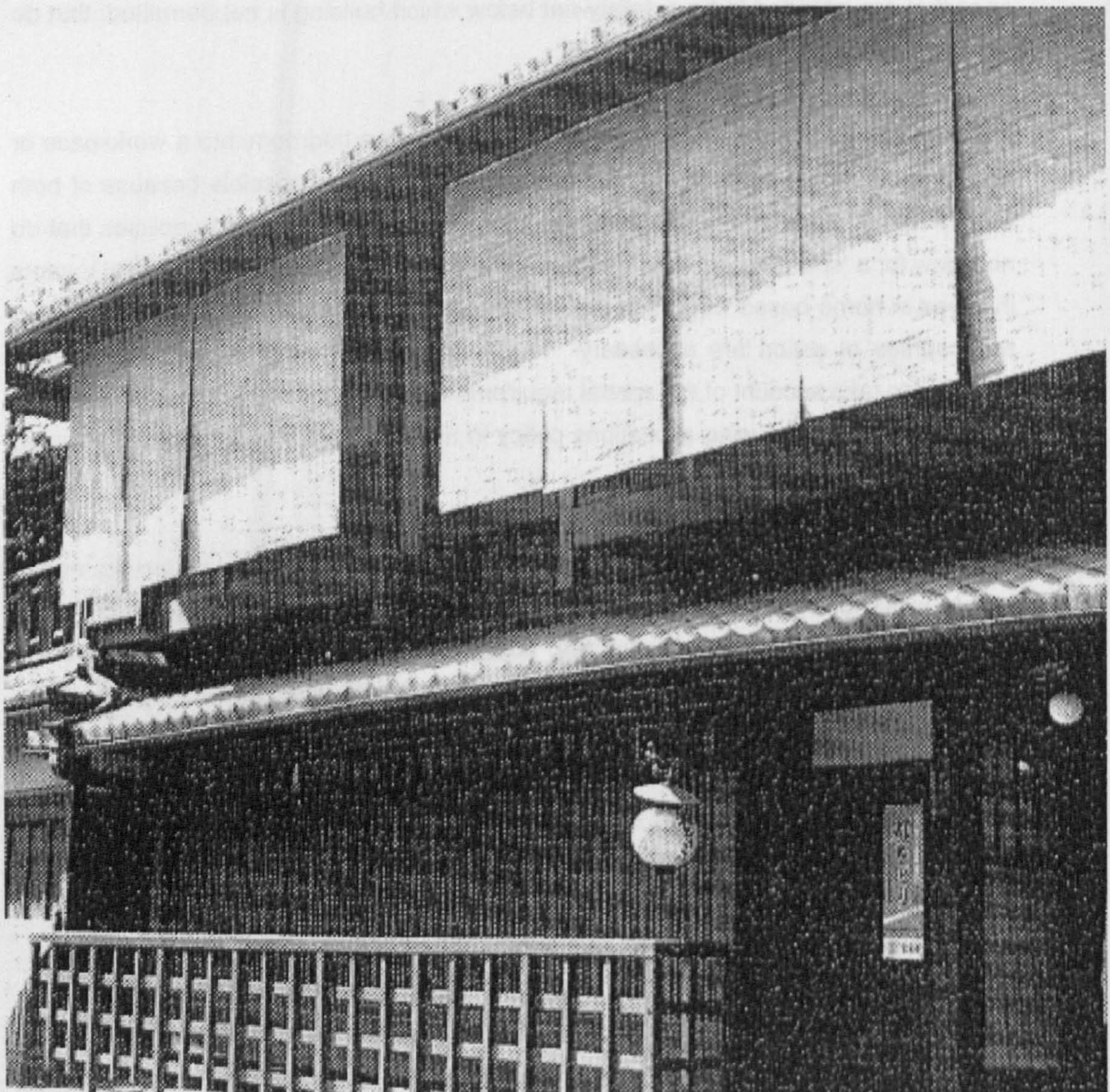


Figure 192: Plan of a machiya

Figure 193: Elevation of a machiya on a Tokyo street



shift in thinking about social housing. It appears that the potential social, economic and environmental benefit would be substantial.

In addition to needing more space overall, home-based work requires more storage space. This may seem like a minor issue, but insufficient storage space caused a problem for most participants. The English approach to storage used to be the freestanding chest or cupboard. This transmuted to 'fitted furniture' in the twentieth century. The Parker Morris standard (1961) allowed three to five sq m of full-height storage per dwelling. Sweden, however, has a set minimum standard for storage for two rooms of six sq m, for three rooms of seven sq m, and for four rooms of eight sq m, while Denmark sets a minimum standard of three sq m per room (HATC Ltd, 2006 p38). In England, pressure on space standards has led to a reduction in storage areas, according to one estimate (HATC Ltd, 2006 p38) from around ten per cent, to only three per cent, of net internal dwelling area in the past 30 years. Residents see this lack of storage space in the dwelling as a major issue. And yet the 2006 HATC report to the GLA is proposing only one sq m storage in a one-person unit, increasing by a 0.25 sq m for each additional person (HATC Ltd, 2006 p63).

In the workhome, space has to be found for 'work' storage as well as domestic items. Most participants found this was a serious problem. Inadequate storage space in many of the participants' buildings, meant that their work equipment and materials dominated their home. A possible precedent for a workhome that has solved the storage issue is the 'machiya', the traditional Japanese merchant's house (fig 192,193). These buildings, nicknamed 'eel's bedrooms' as they were built on long but narrow sites¹⁹⁴, combined dwelling and workplace through a series of spaces that retreated from the street, interspersed by tiny courtyard gardens. They were often inhabited by a number of related families, and most spaces were indeterminate and transformable, their function changing according to the time of day. The internal spaces in the machiya usually had floor to ceiling full-width cupboards that amounted to between a fifth and a quarter of their floor area. All artefacts were kept in these stores, and as a result the spaces themselves were calm and uncluttered. In addition they had a 'kura', a storehouse at the bottom of the site for longer-term storage. This is a simple and generous approach to storage that, conceived from the start as an essential part of the design, enables complex living and working situations to be achieved in an elegant and uncomplicated manner. Mark Guard Architects' 'Transformable Apartment' in Soho, London¹⁹⁵, takes a similar

¹⁹⁴ Averaging 5.5x20m, but sometimes 4x40m.

¹⁹⁵ www.markguard.com (20.12.06)

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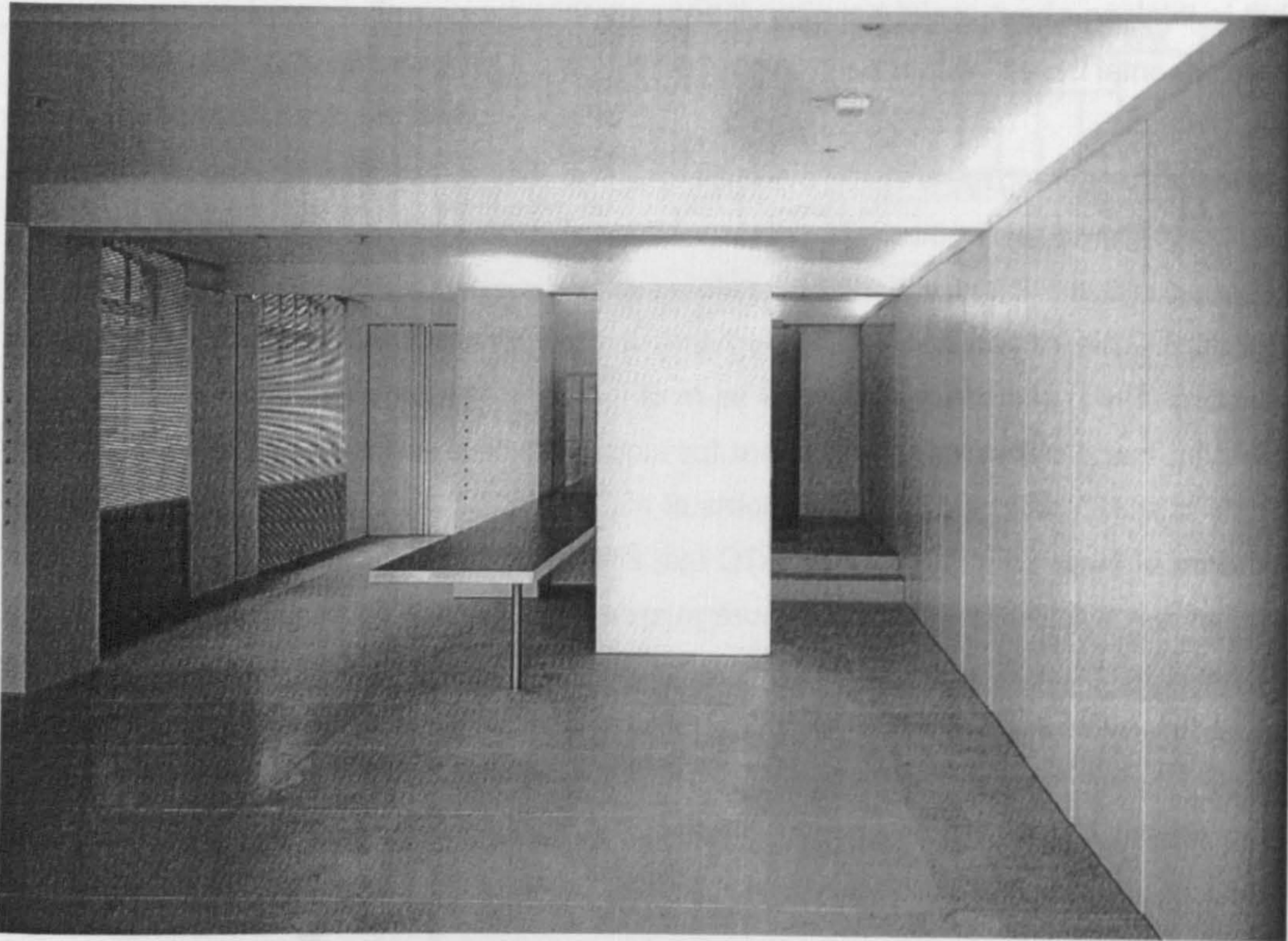


Figure 194: Mark Guard's 'transformable apartment' closed

Figure 195: Mark Guard's 'transformable apartment' open



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approach, installing a room height 15m storage-wall the full length of the apartment that contains...

"...the TV, hi-fi, kitchen, kitchen storage, laundry, drying cupboard, dressing table, wardrobes and wash basin. The doors to the kitchen can be slid back to expose three work areas, a washing up area, a cooking area and a coffee/drinks bar"¹⁹⁶

(fig 194, 195). This may be a useful model for storage in the workhome.

Entrances are another important design issue for the workhome, marking a boundary between differing degrees of public and private space. In a dwelling it is the definitive threshold between the outer, public world and the inner, private sphere, often moderated, in England, by semi-public space in the form of a front garden or an area. It forms a layered defence of the private against the public. The entrance to the workhome often fulfils a more complex set of functions, having to negotiate contrasting approaches to public and private space.

In medieval times, most people had limited privacy, but contemporary expectations are different. The Stanford Encyclopaedia credits a nineteenth century article for...

"...laying the foundation for a concept of privacy that has come to be known as control over information about oneself..." (Warren and Brandeis, 1890).

Almost half the sample experienced some problem with privacy, often in relation to the spatial boundary between public and private areas in the workhome. Meetings presented a particular problem for some. Having clients or customers in the home was considered too personal, too intimate; they lost control of the information their clients or customers had about them. Three strategies were used to counteract this problem a) meeting clients and customers at bars and cafes external to the workhome, b) de-personalising the areas the clients or customers came in contact with or c) making a spatial separation between the 'dwelling' and the 'workplace' elements of the workhome.

In some workplaces, such as the psychotherapist's consulting room, the entrance forms a boundary between the public realm and a private realm into which only the individually invited may enter. In others it marks a boundary between public and semi-public. Selected members of the public may enter an office or a factory, including the workers, sales representatives and people like health and safety officials. In other workplaces, such as shops and pubs, there is a less firm boundary; members of the public may enter, subject only to restrictions of age or unacceptable behaviour.

¹⁹⁶ www.markguard.com (20.12.06)

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The entrance to the workhome may need to fulfil many, or all of these roles simultaneously. Historically the resolution of this issue was often to make a strategic separation between 'work' and 'home', in the form of two entrances, sometimes including a rear one for the 'workers'. This can be seen in the Coventry master-watchmaker's house where the front entrance appeared to be a 'normal' domestic front door to the house but was, in fact, also the door that customers used. Domestic servants and the workforce used the rear door [figs 41, 42, 43]. This model was also used in nineteenth and early twentieth century artists' studio-houses, which often had a rear entrance and stair for the model [fig 67, 68].

There are clearly benefits to having separate entrances for the two functions, but the workhome takes many different forms, and what is appropriate for one home-based worker is unsuitable for another. While the psychotherapist/writer longed to have a separate entrance to her therapy room (LW44), this would not have been a good solution for the successful photographer, who did not have a problem having large numbers of people in his work/live unit when he was doing a shoot. He did not have a sense of his workhome as 'private' at all (LW35). Where the work remains in the private realm, as in the case of the BT manager (LW18), the nature of the entrance may be unimportant [fig 167]. It has been seen in Chapter Four that the entrances of the clergy are often carefully designed both for security purposes and to ensure that visitors on business do not enter the private areas of the rectory or manse.

The central issues appear to be to ensure a) that the relevant function is dominant (ie 'home dominant', 'work dominant', or 'equal status') and that the entrance/s reflect that, and b) that the degree of separation between public and private is appropriate to the occupation, as well as the personality and philosophy of the home-based worker. This would avoid situations such as the graphic designer anxiously leading her new client through her domestic spaces to reach her professional workspace. It may be achieved through the combination of different sorts of entrances, domestic/industrial, formal/informal, humble/grand, contributing to the development of an aesthetic for these hybrid buildings. It becomes increasingly clear that the 'one size fits all' approach is not appropriate. People need be able to select a form of workhome that suits a) the way they want to inhabit the spaces (un-differentiated, with a degree of differentiation or totally differentiated), and b) their particular situation, both in terms of occupation and household.

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Scale is yet another important design issue for the workhome. It became apparent that there is often a need for the 'work' element of the workhome to have a non-domestic scale. This may be to accommodate materials, such as large canvases or sculptures, large boards or long pieces of timber, or machinery such as the Jacquard loom in the Coventry cottage factories. Or it may be to give the workspace element a more professional atmosphere.

The juxtaposition of different volumes in a single building creates a distinctive architecture. Le Corbusier's studio-house for Amédée Ozenfant has a double-height studio above two smaller volumes containing living accommodation [fig 1]. The elevations reflect the dual functions of the building in a satisfying if somewhat idiosyncratic way. A similar effect is visible in the Coventry cottage factories (fig 33, 36). These iconic workhomes reflect the dual functions of the buildings through their architectural form. Once this building type is integrated into mainstream architectural and governance classification systems, it is probable that such buildings will become a familiar part of the street scene. A 'new' architectural language will emerge through the conscious juxtaposition of spaces designed for contrasting functions within a single building.

A group of further design issues emerging from the interviews involve the environmental performance of these buildings. Many such issues emerged from the interviews, the dwelling and the workplace elements of participants' buildings often having to function differently environmentally. One tends to be heated in the mornings and at night, while the other is heated through the day; one often needs higher levels of natural light. Acoustic separation and insulation are important in both, but are often given a higher priority in one than the other. Workhomes need to negotiate these differences.

Acoustics emerged as the most important environmental issue for the participants in this research. Rags stuffed between the joists of eighteenth and nineteenth century weavers' houses suggest that this has long been the case. The 24-hour pattern of inhabitation of a workhome requires high levels of sound insulation in party walls, party floors, external walls, internal partitions and internal floors. While it is comparatively easy to make a window larger or alter a heating system, it is hard to improve the acoustics in buildings built to a poor standard. The consequent suffering was clear in many of the interviews. Sound insulation was found to be best in twentieth-century 'high mass' buildings, and worst in seventeenth century timber-framed houses and nineteenth-century industrial buildings. Many participants reported being disturbed by noises from outside their space. They

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Figure 196: A nineteenth century Coventry cottage factory



Figure 197: A contemporary architect's studio-house

Figure 198: Horizontal window to academic's study communicates some 'other' function (LW06)



were also disturbed by the noise of appliances such as washing machines inside their spaces. Many wanted soundproofing between their working space and their domestic appliances. Sound insulation standards were tightened in 2003, but the workhome may need to be built to higher standards still, because what may be acceptable in the evening, while the television is on or music being played, may not be acceptable during the day when someone is trying to concentrate on their work.

Natural light was also found to be a crucial environmental issue for the workhome. Many occupations require high levels of natural light. Historic workhomes can often be identified by the juxtaposition of large expanses of glass with domestic scale windows [fig 196] Prewett Bizley have followed in this tradition in their studio-house in Newington Green, placing a full-width window in the top-floor studio but conventional domestic scale windows to the living accommodation on the floors below [fig 197]. The academic's study in the rear extension to her mid-terrace house adopts a similar strategy. The horizontal window at desk height casts a high level of natural light onto her desk, but also indicates, architecturally, that some 'other' function is being carried out in this part of the house [fig 198] (LW06).

One of the drawbacks to working in domestic buildings is that they do not necessarily have high enough levels of natural light, but nineteenth-century industrial buildings can make ideal workhomes, because they were often built with large windows [fig 166]. Participants inhabiting historic buildings with small windows often found they had to work by artificial light throughout the day [fig 159]. A number of participants in purpose-built hybrid buildings enjoyed high levels of natural light, although this then caused problems with solar gain and/or glare on computer screens and was followed up by the installation of blinds [fig 105]. The graphic designers with an attic studio installed blinds that allowed a controlled amount of light through, in order to achieve a light and airy environment without glare or excessive solar gain. Achieving high levels of natural light without excessive solar gain or glare has been one of the challenges of designers and builders of the workhome across the centuries. This can produce an idiosyncratic architecture that we may expect to proliferate when this building type is accepted into the architectural lexicon.

Heating also emerged as an important environmental issue in the workhome. Most of the building stock in England has been built with low levels of thermal insulation. Participants inhabiting such buildings faced a choice in winter: high heating bills or freeze. Many

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wanted to heat a single space in the day, but found their heating systems could only do 'all or nothing'. They often reverted to the use of a local heating solution such as a gas fire. High levels of thermal insulation would alleviate this problem. One participant inhabiting a well-insulated modern flat found that the waste heat from two computers kept his office warm all winter without any daytime heating (LW39). Other participants found the waste heat from commercial refrigerators, freezers and ovens kept them warm during the winter. This also, however, led to overheating in the summer, when cooling systems were needed.

This offers scope for innovatory design and building products. There seems to be a market for a heating system that can heat a single space in the day and a number of spaces at night. There may also be a market for a system that could recycle the waste heat from commercial ovens, fridges and freezers. The form of the workhome and daily inhabitation patterns can also be made to 'work' environmentally for the dual functions. One of the graphic designers described how they rarely needed to heat their attic studio. Not only did the heat rise from the residential spaces below, which were heated morning and evening, keeping the studio warm, but the highly insulated new studio also prevented heat-loss from the spaces below, keeping the house warmer than before (LW04).

It may seem like a minor point, but the servicing of the workhome requires thought. Even the architects in the sample who had designed their own studio-houses had underestimated the number of electrical socket outlets they would need in their workspaces. Working in the informational age increasingly involves the use of electronic equipment. The graphic designers' attic studio included more than 50 electrical socket outlets, all of which were in use (LW04). While this is an extreme example, most participants found themselves using extension cables to provide additional electrical capacity. The live/work unit of one participant had been designed with a services channel in the floor that allowed additional sockets to be activated. Even in this case, the architect participant used extension cables rather than go to the trouble of altering the initial provision. Unexpectedly large numbers of electrical socket outlets are often needed in workhomes. There are many systems on the market for providing this.

In addition there are issues surrounding the provision of other services. Several participants found sharing their WC with the public or employees to be a problem. In some workhomes there may be an argument for the provision of a separate 'work' WC. This illustrates the need for a wide range of different models. The environmental

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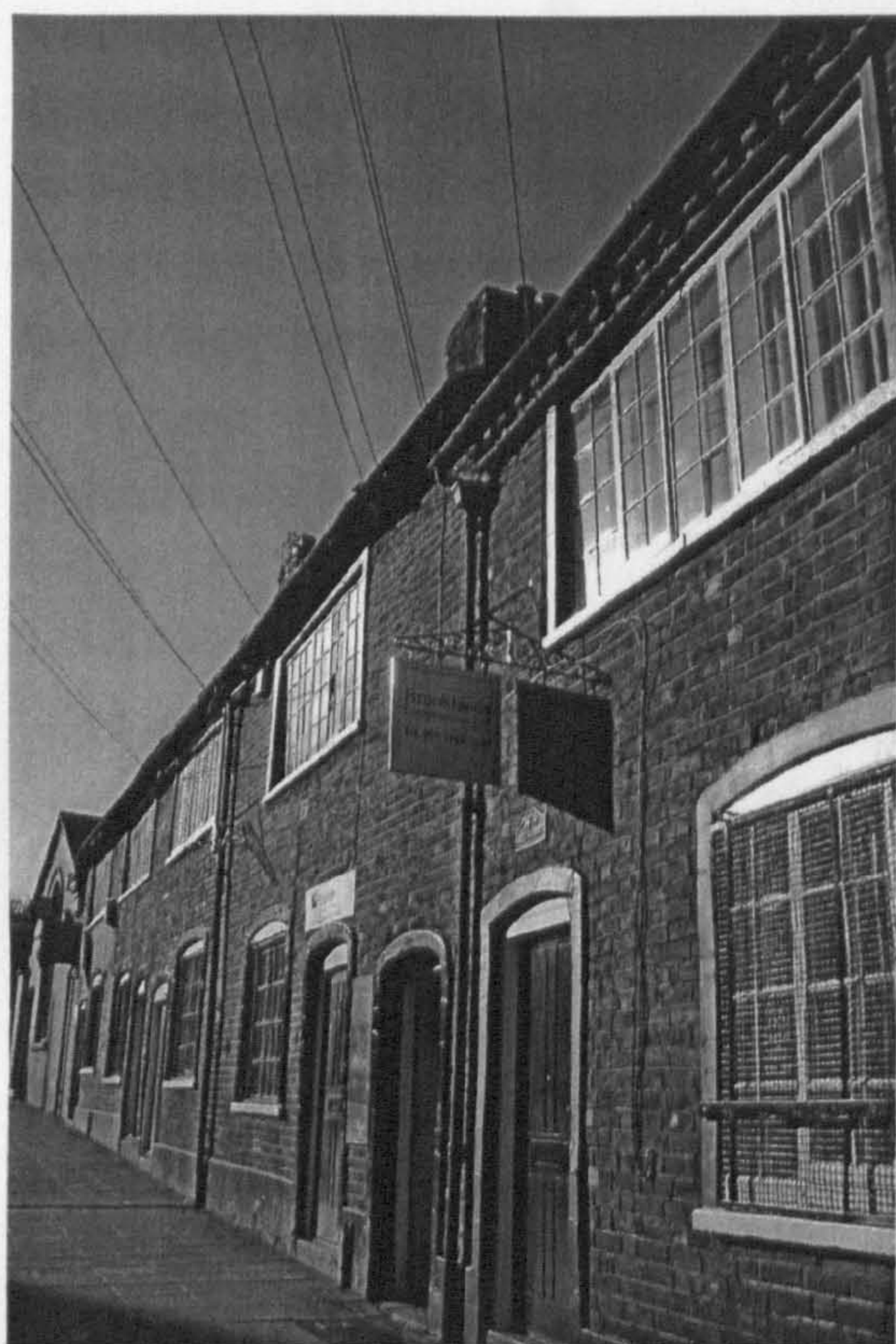


Figure 199: Coventry topshops with out-of-plumb windows to prevent glare

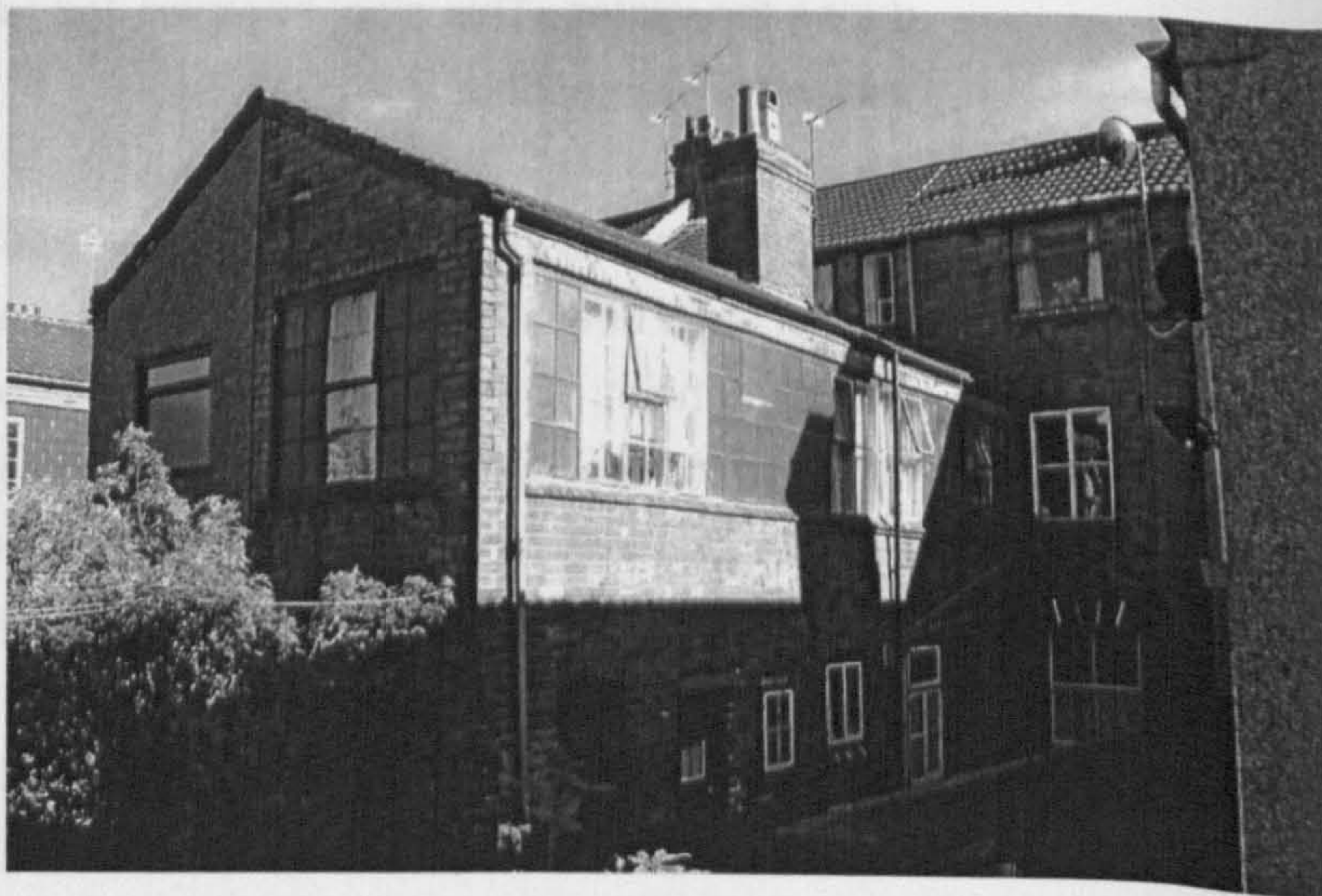


Figure 200: Evidence of a rear stair from the yard to the workshop in a surviving Coventry topshop



Figure 201: Evidence of a payment hatch and a heavily lock door between the dwelling and workplace in a Coventry topshop undergoing restoration

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performance of the workhome often needs to be different to that of either the dwelling or the workplace. There is scope for the development of innovative environmental systems within this 'new' building type that optimise performance while providing appropriate environmental conditions for the hybrid functions. This offers designers and volume house-builders a further challenge.

Precedent provides a design tool for the workhome, as for all other buildings. Because this building type has not been recognised in the past, it might be thought that there is little precedent to work with in their design. This thesis shows this to be untrue; a building type with a substantial history has been revealed. The painstaking restoration of a Coventry watchmaker's top-shop by an enthusiast revealed detailed information about how it accommodated its hybrid function¹⁹⁷. For example, the windows in front of watchmakers' benches were built out of plumb to prevent glare [fig 199]. Traces of a rear stair from the yard to the workshop confirm that the employees entered directly from a separate door in the yard, also using the external WC [fig 200]. A heavily locked door separated the domestic spaces from the rear top-shop, and a hatch connected an office in the house to the rear top-shop, through which the employees were paid [fig 201]. But there is currently no natural receptacle for this knowledge, as the top-shop has previously appeared to be a one-off building type. The acknowledgement of the workhome as a generic building type, and its acceptance into the architectural lexicon, may encourage the documentation of this previously largely unknown building type. Many of the issues raised are relevant to the contemporary workhome, and much can be learned from the study of such precedent.

While this thesis has tended to focus on 'ordinary' buildings, the spatial practice of home-based work, the 'high' architectural canon also includes many workhomes. Generations of architects have grappled with this hybrid building type, and there is a great deal to be learned from their designs. The Maison de Verre, Ozenfant's Studio and the Eames House, mentioned briefly earlier, provide examples of the three spatial design strategies, providing differing degrees of spatial separation, 'live-with', 'live-adjacent' and 'live-nearby' [fig 202, 203, 204]. The nature of these buildings, and their location in residential neighbourhoods, suggests that they might all be categorised as 'home dominant'. The architecture of all three revolves around dedicated 'living' and 'work' spaces, in different configurations. However it is difficult to know, in practice, how they were used. The issue of entrance, and the maintenance of privacy, has been tackled elegantly in all three

¹⁹⁷ Interview with Malcolm Adkins, top-shop restorer, 2004

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Figure 202: Maison de Verre
- 'live-with'

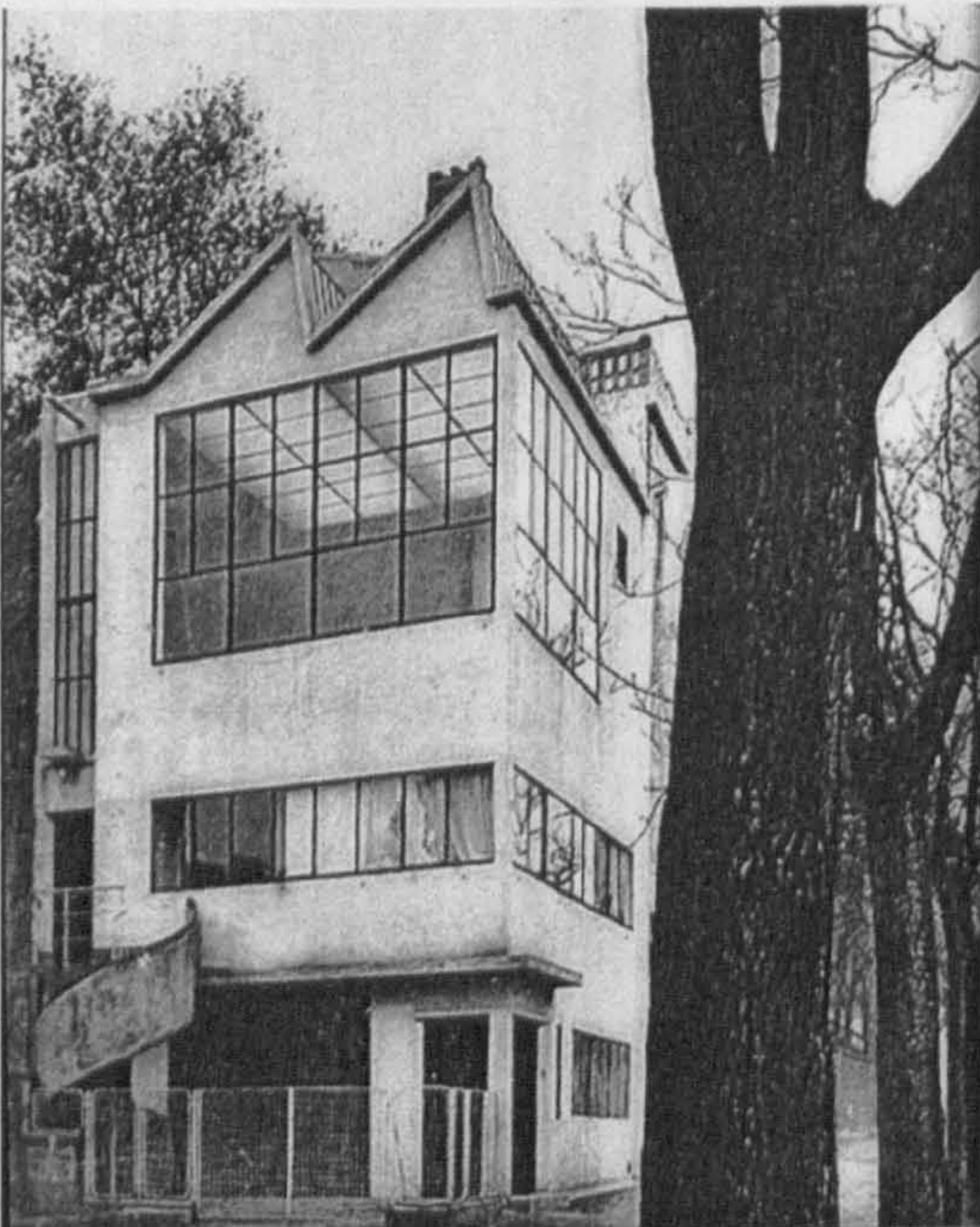


Figure 203: Ozenfant's studio-house -
'live-adjacent'

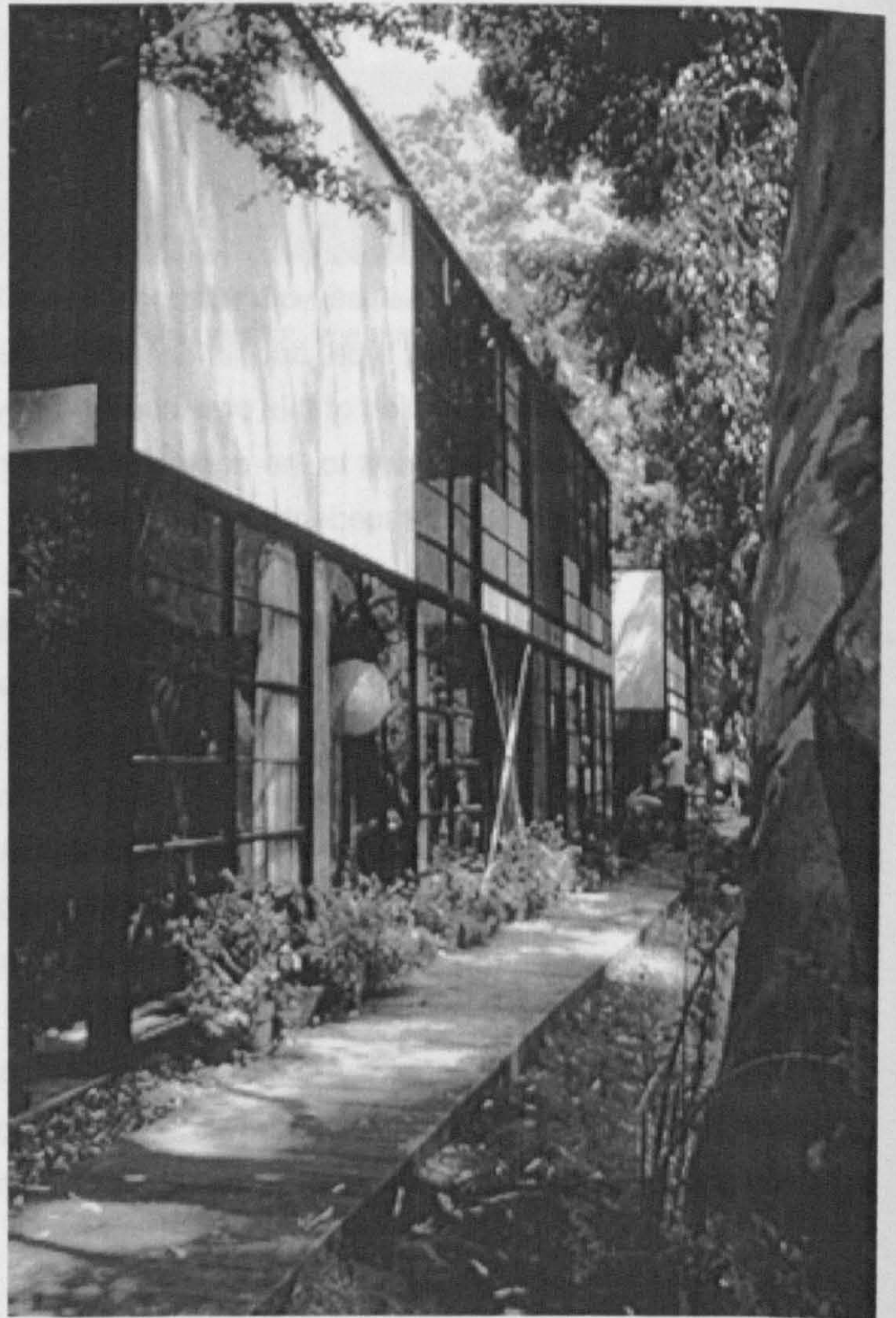


Figure 204: Eames house - 'live-nearby'

examples, as has the issue of achieving high levels of natural light in the workplace. The oeuvre of many other individual architects, for example the Japanese master-architect Tadao Ando (Ando and Dal Co, 1995), are also packed with workhomes. While it has been beyond the scope of this project to investigate such precedents in depth, this is being considered as a follow-up project.

The importance of giving this building type a name

The final issue, regarding the future of these buildings, involves a brief look at the fate of historic workhomes over time. This reinforces the importance of naming this building type, and including it in the architectural lexicon. The Huguenot weavers' houses in Fournier Street, Spitalfields were recognised as having historical significance in the nineteen-seventies. These are now valuable studio-houses inhabited by affluent professionals, many of whom run businesses in the former attic weaving-lofts that were once scorned as garrets [fig 22]¹⁹⁸. However the significance of Cash's cottage factories in Kingfield, Coventry was not recognised and they were converted to social housing in 1981. Each original cottage factory now consists of two maisonettes. A floor has been inserted into each former loom-shop and the resultant upper maisonette suffers excessive solar gain as a result of the large expanses of glass. Without a collective name, this building type was not marketable as a product. This contributed to the loss of Cash's iconic development of cottage factories to social housing. No doubt many other workhomes have suffered a similar fate. There is irony in the fact that, 25 years later, the same housing association is pioneering the exciting 'new' building type, the 'affordable live/work unit'¹⁹⁹. Some of Coventry's remaining top-shops are in a poor state of repair, inhabited by elderly residents who would replace their extensive glazing with domestic-scale windows if they had the means [fig 200]²⁰⁰. Un-named, this building type with hybrid function has often also been undervalued, socially and economically. Once named and recognised, the value of such properties will be protected. The naming of this building type, as workhome, is one of the contributions this thesis makes to the development of architectural knowledge.

The governance of the workhome

One of the lines of investigation, from the outset of this research, was to question why this building type, which exists all around us, has not previously been studied or included in architectural classification systems or typologies. Confusion and inconsistency regarding

¹⁹⁸ Interview with Gareth Harris from the Spitalfields Trust

¹⁹⁹ Touchstone Housing Association

²⁰⁰ Conversation with elderly resident at 18 Norfolk Street Coventry, 14.06.04

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the governance of the workhome emerged from the interviews. It became apparent that the governance systems of this country barely acknowledge the existence of the home-based workforce or the workhome. This may be partly responsible for the near invisibility of the sector and its buildings.

Contemporary structures of government have been designed around the separation of work and home and involve separate 'silos' for 'trade and industry', 'work and pensions' and 'housing' at both central and local government level. This has contributed to the perpetuation of rigid 'residential' and 'employment' planning zones. These structures appear to be holding back the development of an advanced home-based sector. Hybrid building types and flexible working practices are difficult to fit into this, and as a result tend either to be ignored, or governed, maybe inappropriately, according to the estimated proportions of 'home' and 'work' in the composite hereditament. Three areas have had a particularly negative impact: local taxation, planning and the regulation of social housing. Others act as irritants.

It has been shown that people are increasingly choosing to work at or from home, or to live at their workplace. But one of the unexpected findings of this research was the number of participants who were operating 'inconspicuously'. Of the 76 participants, home-based workers across a wide range of occupations and building types, and from diverse socioeconomic backgrounds in urban, suburban and rural settings, two-thirds were working illicitly in some way. This research indicates that current tax regulations may be a major factor driving home-based work underground. The overwhelming majority of these home-based workers were not operating as part of the informal sector, as they paid both council tax and income tax, but they generally did not pay either business rates or, on the sale of their property, capital gains tax. As a result they operated 'inconspicuously', regardless of whether they were liable for these taxes or not.

Confusion and anger have been encountered regarding the charging of combined council tax and business rates for home-based workers, and ignorance regarding capital gains tax. The confusion appears to stem from a lack of understanding of when home-based workers are required to pay council tax, business rates, or both. The anger appears to stem, in those who have no option but to pay both (i.e. the visible home-based workers such as shopkeepers who live above their shops), from what is seen as double taxation.

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Both taxes have been conceptualised around the physical separation of the workplace and the dwelling. If the aim of business rates is, like council tax, to pay for local services, then there is undoubtedly an anomaly regarding the home-based worker. Many participants raised the point that they have to pay twice for their local services, considering business rates to be a 'stealth' tax, for which they receive nothing. They argue that because the high street lock-up shopkeeper operates from two locations, it is fair that he or she pays two sets of tax, as they in effect use two sets of streetlights, pavements and roads. By contrast the home-based worker only uses one set of services, one piece of pavement or road, one set of streetlights. While it is acknowledged that local taxation is a collective contribution towards the wellbeing of society, and not merely an individual 'payment' for services used, these participants considered that their contribution was currently disproportionate, because the home-based nature of their work was not being taken into consideration. Home-based workers pay for their local services in the same way as their purely residential neighbours, through their council tax. However, because of the size of the council tax bands, many pay the same level of council tax as purely residential neighbours. If their property has been classed by the Valuation Office Agency (VOA) as a composite hereditament, they then have to pay business rates in addition that may amount to several thousand of pounds while receiving, in their view, nothing in return. Such participants were vocal in their opposition to business rates for home-based workers. In this research, it has been found that it is almost exclusively only the 'visible' home-based workers, such as shopkeepers, funeral directors and publicans, who pay both taxes, primarily because they are unable to escape the attentions of the VOA. Inhabitants of the 'new' building type, the 'live/work' unit fall into the same category, now 'visible' as a result of the building type they inhabit. If the business rate is set at a higher rate than council tax to compensate for additional traffic caused by business use, and this is why a combination of both taxes is charged to the home-based worker, then application of this principle needs to relate to the nature and scale of the business involved. Most home-based workers, many of whom run micro-businesses, do not increase their use of local services because they work at or from home but may still be liable to pay a combination of council tax and business rates. A number of participants indicated that one of the factors threatening the viability of their business was this double taxation.

An example is a participant working part-time in the creative industries in a live/work unit, while her child was under school age, with a turnover likely to increase substantially when the child goes to school. While she is currently unlikely to be able to afford the levels of taxation that the combination of council tax and business rates involves, once

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she is able to increase the size of her turnover she would not have a problem paying both taxes. In the meantime she may well have arranged her live/work unit in such a way as to lead to a 'residential' classification by the VOA, in order not to become liable for this double taxation. The consequence of this is that she has joined the vast population of invisible, although generally law-abiding, home-based workers. Another similar case is an artist in a live/work unit, who presented his art as a hobby to the VOA because he could not afford to pay business rates in addition to council tax.

There are a number of negative consequences to this 'invisibility'. The first is that it makes it difficult to determine the actual size of the home-based working population. Without accurate statistics, it is difficult to generate appropriate policies. In addition, the 'invisibility' of home-based workers has had a negative influence on planning decisions. This has led to the collapse of the market for live/work units, despite the fact that this is a much-needed 'new' building type. This will be discussed fully in the next section. In addition, the double taxation of low-income 'visible' home-based workers is contributing to the loss of valuable services such as small-scale local shops. Finally, many home-based workers ensure that the spaces they use for their work are in dual-use as domestic spaces as well, at least nominally, to ensure exemption from business rates. This can create difficult working environments and raise health and safety issues. The overwhelming majority of the home-based workers who were interviewed, whose occupations did not have a public face, indicated that they worked 'inconspicuously' as a result of anxiety about business rates liability. This was as much the case for people who were not liable as for those who may have been. Participants repeatedly expressed their concern. They considered that they already paid for their local services, and the majority said they would not be able to afford to continue to work at or from home, if they had to pay both taxes.

Most of the home-based workers involved in this research consider this taxation system to be punitive. It currently leads to large numbers of otherwise law-abiding citizens living and working under a cloud of anxiety about being 'caught'. An example is a home-based hairdresser, who started home-based work when she needed to support herself and her child, after her husband left them. Initially she worked in a bedroom, washing her clients' hair in the bathroom, over the bath. Disliking the smell of chemicals that permeated the house from perming and colouring hair, she set up a fully-equipped salon in a back room in her house, separated by a door from the rest of the house, and with its own side entrance [fig 126, 127]. This room, being unusable for any other purpose, is liable for



Figure 205: 'Equal status workhome' - the workshop at two minutes walk from the dwelling (LWR22)

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business rates under the current regulations. Although an upstanding member of her community, paying both council tax and income tax, this home-based worker's turnover could not support the payment of business rates in addition to her existing expenses. It is also difficult to see how the increased level of taxation can be justified. She makes her contribution to local services through council tax, and runs a very modest business from home, providing an invaluable service to a small largely local, ageing clientele.

This anomaly in the local taxation of home-based workers has been brought to the attention of the Deputy Director of the Small Medium Enterprises & Employers Unit within HM Revenue and Customs (HMRC). As a result HM Treasury is carrying out a piece of work to look holistically at how home-based workers are taxed, and a subgroup of the Operations Consultative Committee has been set up at HMRC to consider the administrative issues of home-working. There is a strong argument, in the face of the benefits that home-based work offers to the individual, the neighbourhood and society as a whole, for a system of local taxation that encourages and rewards the home-based workforce. If there were economic incentives to the practice, it seems probable that many of the currently 'invisible' home-based workers would start to operate openly, and the size of the overall home-based workforce would increase. In this context, the removal of business rates for home-based workers, and capital gains tax on the sale of the workhome, could be appropriate.

In the face of this, the 'equal status workhome'²⁰¹ may be a useful concept in the development of governance systems appropriate to the contemporary home-based workforce. This is an issue that has emerged from the empirical research. It is a category that has previously been overlooked. A number of participants were using spatially separate 'dwelling' and 'workplace' elements, in association, as workhomes, for example the motor engineer who inhabited a workshop a minute's walk away from his home [fig 205]. Other examples include the shop with a flat above or the house with the studio at the bottom of its garden that has separate access, mews-style, onto a subsidiary road [fig 128, 129]. In each case two buildings (or parts of a building) with independent status on the street are used in association as a workhome²⁰². There is usually no acknowledgement, currently, that the same person, or people, inhabits them both. However this joint inhabitation has benefits for the individual, the neighbourhood and society at large, and it is suggested that this

²⁰¹ Defined as having: 1) spatially distinct fire compartments with the ability for both parts to be used separately, and b) separate entrances onto a street.

²⁰² In this research none of the 'equal status workhomes' had workplace and dwelling elements more than two minutes walk apart, however the distance at which such buildings cease to be 'equal status workhomes' has yet to be determined.

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might be acknowledged by way of an equivalent tax break to that argued for the home-based workforce as a whole. The adoption of this idea could act as an encouragement for people to work locally. It could also be used as a further conceptual tool for the designer of such buildings in the future.

There are equivalent problems in the planning system to those encountered in the local taxation system. Contemporary planning policies, based on functional zoning, embody the spatiality of the industrial revolution. In general, planners continue to be wedded to functional zoning despite mounting concern that it is no longer essential or even desirable for the successful development of the modern economy or city. 'Mixed use' is a concept that has been embraced by policy-makers in the built environment, but it still carries the expectation that the individual will travel to their workplace. Planning permission for the dual inhabitation of a building for combined dwelling and workplace functions has become a battlefield in some local authorities over the past ten years. Two hundred years ago a 'house' would, in fact, have been a workhome, productive work then being carried out almost entirely in the home²⁰³, undifferentiated from reproductive work. Over the centuries, new words were adopted for new building types in which solely productive work was carried out: 'factory', 'office', 'mill', 'railway station', 'department store'. The old word for the building in which people had previously both lived and worked, 'house', remained in use, whether or not people were working there. This did not matter much. Some houses were 'just' dwellings, others incorporated both dwelling and workplace. It was a matter of preference, depending on individual circumstance.

This, however, gradually changed over the twentieth century. The population of the UK increased by 60 per cent between 1900 and 2006, from 38 million to over 60 million. Regulation as a concept has existed since medieval times, but it too increased exponentially. While the driving licence was introduced in 1903, when the speed limit was increased to 20mph, the concept of Planning Permission was not introduced until 1947 and it was only in 1966 that the first national Building Regulations were introduced. Without assigning causality, these increases of population and regulation have combined to restrict the behaviour of the population in a variety of ways. While in 1906 one could buy a Cornish field overlooking the sea and build a house, 100 years later planning regulation has made this virtually impossible. Similarly, while in 1956 one could live and/or work in whatever building one chose, 50 years later this too is fiercely regulated. The 'ordinary dwelling place for a family', 'house', is now taken to mean a building in which

²⁰³ ...or by people living at their workplaces

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people do not carry out their productive work, but 'just live'.

However, the tradition of working at or from home, or living at the workplace has been continuous since medieval times, and this has, in the twenty-first century, resulted in a wide range of hybrid buildings. Combining workplace and dwelling, they incorporate spaces and accommodate functions that are different from what 'house' has come to mean. However, officially nameless, they have been ignored, invisible in architectural typologies and classification systems and omitted from planning frameworks. The 'live/work' revolution, initiated in New York and then reproduced across the developed world, introduced the apparently new concept of the hybrid building. Without appropriate planning frameworks, individual local authorities developed their own planning guidance to address this phenomenon, most famously the London Borough of Hackney (LBH).

Artists moved into Hackney's empty, semi-derelict light industrial spaces in the 1970s and 1980s and developers, aware of the potential value of these previously worthless buildings, started converting them into highly saleable live/work properties. Initially, meeting the local authority's need to regenerate run-down areas, this development was encouraged, and in 1996, LBH made the first attempt to formalise planning policy around the building type that combines dwelling and workplace in the UK²⁰⁴. This took the form of its 1996 Live/work Supplementary Planning Guidance (SPG). It foundered on unforeseen problems, primarily the loss of affordable housing to the Borough as a result of Section 106 agreements to build live/work units in place of affordable housing, but also the fear that employment land was being lost through the purely residential use of the units. In 2005, on the basis of a methodologically flawed²⁰⁵ report that did not consider the needs of the contemporary home-based workforce as a whole²⁰⁶, LBH decided to revoke their live/work SPG, and to refuse any further live/work permissions in the Borough. However, a national planning guideline was simultaneously set out by the ODPM²⁰⁷, identifying live/work as 'sui generis', effectively a class of its own, in apparent contradiction to the decision of LBH.

²⁰⁴ It was preceded by a 'Guide to Policy Interpretation' (1994) regarding live/work development in Shoreditch and followed by a 'Policy Guidance for Live Work Uses' (1999).

²⁰⁵ LONDON RESIDENTIAL RESEARCH (2005) Review of Live-Work Policy in Hackney. London Borough of Hackney, LRR supported LBH's view that the Borough's live/work units were in "wholly domestic" use. They stated: "...our data gathering efforts were heavily focused on getting hard evidence about how live/work units are being occupied in practice..." However the primary evidence they produced to support this conclusion was data showing that the inhabitants of live/work units in Hackney did not pay business rates. While this was interpreted as showing that the units were in purely residential use, the data may merely indicate a tax anomaly. The research for this thesis, carried out through interviews with members of the home-based workforce in Hackney, has found many live/work units in Hackney in use as combined dwelling and workplace, albeit often inconspicuously for governance reasons.

²⁰⁶ ...in fairness, this was not their brief.

²⁰⁷ Circular 30/2005. The ODPM was replaced in May 2006 by the Department of Communities and Local Government

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LBH's pioneering work around live/work generated some fine buildings accommodating many communities of home-based workers. It also highlighted some difficulties. Undoubtedly some developers used the 'live/work' SPG as a way of building residential accommodation on land zoned for employment use, thereby making large profits. A deep-seated conceptual confusion about live/work in relationship to planning remains. What does live/work mean? When does 'work' count as 'work'? How much 'work' are people allowed to do in their home before it becomes a workplace? What sort of work are people allowed to do in their homes without planning permission? Are people allowed to live in commercial premises? How is 'work' distinct from 'life'? How are those distinctions maintained/blurred in the buildings inhabited by the home-based workforce?

This confusion was reflected in participants' responses to questions about planning permission. People were revealed living 'inconspicuously' in B1 properties ("we hid the bath when the planners came"), while others worked 'inconspicuously' in dwellings for fear of being 'caught'. Participants had received planning permission for workplace additions to their dwellings as 'spare bedrooms' ("... it's a residential area, we didn't think we would be able to get commercial use"), while others had reassigned their live/work units as residential in order to reduce the outgoings, despite the fact that they worked there more than 40 hours per week. Participants using live/work units for their intended use had neighbours using their live/work units both solely as dwellings and solely as workplaces. A few participants understood the system and were abiding by it: one had had the industrial unit in which they lived assessed by the VOA as a composite hereditament, and had then had it re-assigned as a live/work unit by the planning department. They paid a combination of business rates and council tax.

People were found living in industrial buildings and working in residential ones. In some cases the work fell within the bounds of what is acceptable in planning terms in a dwelling, in others it did not. Some participants were found inhabiting live/work units and work/live units as originally envisaged, with the 'work' use dominating, and paying a combination of business rates and council tax. Others, where the 'work' use dominated, had been reclassified as residential to avoid business rates, while some, used by part-time home-based workers with caring responsibilities or by participants working in IT based occupations, had dominant residential use. The 'new' class of building was found, as discussed earlier, the 'equal status workhome', where spatially separate workplace and dwelling units were being used in an associated way as a workhome.

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Over half (43) of the workhomes studied did not fit into the current planning framework, the 'Use Class Order', which, organised by function, does not acknowledge hybrid buildings. Ten other workhomes had live/work planning permission under a now-defunct SPG. These would be unlikely to receive planning permission under the new 'sui generis' Use Class, as LBH planners are now 'very cautious' about giving permission to live/work developments:

"We do not support live/work as a policy position, it hasn't worked. A lot of employment areas have been degraded because most live/work units developed in the Borough are not operating as live/work, but are being used purely as residential accommodation."²⁰⁸

This caution is not restricted to the London Borough of Hackney. A large contemporary rural 'live-nearby' project, consisting of houses with mews-style workplaces at the bottom of their gardens, has recently been refused planning permission, as the local authority feared it would revert to housing (Brockhall Village Ltd and Hitman, 2001). The issue of planning zoning appears to be at the root of many of the contemporary problems regarding the development of workhomes. Lacking a conceptual framework for the workhome, restrictive and piecemeal planning policies are being developed that seem likely to drive home-based work further underground. The planning Use Classes and zoning, instituted to regulate building development under industrial capitalism are likely to become increasingly ill-suited to the regulation of development under informational capitalism as both the physical location of 'work' becomes less crucial, and the impending climate change crisis inclines people to stop travelling to their place of work.

Here are two possible ways of thinking holistically about the provision of an appropriate planning framework for buildings that combine dwelling and workplace:

1) The first ('tighten up') involves reworking the Use Class Orders to incorporate the different categories of workhome ('home dominated', 'equal status' and 'work dominated').

2) The second ('loosen up') involves the relaxation of the current Use Class Order categories to enable appropriate work to be carried out in dwellings, and appropriate residential use of workplaces. This could result in indeterminate buildings, as discussed by Heif.

Both involve a major conceptual shift in terms of thinking about conventional planning

²⁰⁸ Telephone conversation with Mark Powney, Policy Planner, LBH 13.10.06

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zones: 'employment land', apparently endangered, infiltrated by residential use; 'residential land' revealed as sheltering large numbers of workplaces. However this has to be seen in the context of the dramatic shift over the past 20 years from a manufacturing-based economy to one based on service and information industries. There are advantages and disadvantages to either system. Both would require intricate negotiation with the VOA over the appropriate application of business rates/council tax, but either would present a positive path out of what has been a murky quagmire. It is suggested that a worthwhile aim could be to put policies in place that encourage and support this working practice, recognising the potential benefits to the individual, the local community and society a whole. This research suggests that any partial solution may result in the re-burial of the workhome, leaving large numbers of home-based workers operating in unsatisfactory and insecure conditions, without either beneficial governance policies or innovative buildings designed around the spatial requirements of the dual functions. This would be a retrogressive approach to what has the potential to be one of the most exciting challenges of our time.

A further governance issue affecting the workhome is that of tenancy conditions, (especially for social housing tenants), leases and deeds for freehold property. In an apparent hangover from the housing reforms of the early twentieth century, it has been found that, while not having explicit policies that do so, contemporary registered social landlords (RSLs) still use clauses in their tenancy agreements that prohibit or discourage home-based work. It is probable that removing these would have a number of positive outcomes:

1. Many people currently working in the informal economy, or even operating 'inconspicuously', would be able to move into the formal sector and advertise their businesses locally. As a result, it is likely these businesses would become more profitable, boosting the local economy and, simultaneously, the sense of community.
2. It is also likely they would then start to contribute to both the local and the national good by paying taxes.
3. Health and safety risks would be reduced. It is likely that the 'dozens' of unregistered childminders unearthed in this research have neither had the necessary training to carry out this work, nor the annual health and safety checks to ensure their homes meet the appropriate standards. Such unregistered childminders put children at risk. There are many other areas of work, including catering, that are carried out 'inconspicuously' from social housing, with different but equivalent risks attached.

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4. People working informally or 'inconspicuously' would no longer have to live with either the danger of losing either their livelihood or their home, or the anxiety of being 'caught'. People using their services would not have to live with the anxiety that comes with purchasing products or services outside a well-regulated system, particularly in areas such as childminding and catering.
- 5) It is likely that large numbers of people would enter employment as a result of such policy changes to home-based work in social housing. This would reduce worklessness in some of the most critical areas, i.e. social housing estates where there are high concentrations of poverty and deprivation.
- 6) This in itself would be likely to reduce crime in these areas. Home-based work creates populations that are 'at home' throughout both day and night. 'Watched' streets and estates are safer and have less crime.
- 7) Running even a small successful business from home would raise people's self-esteem. This would have a positive knock-on effect on both the estate in question and the wider neighbourhood.

This is a further anomaly in the governance of the workhome. Lifting this restriction on home-based work in social housing could contribute to the economic empowerment of some of the most disadvantaged members of UK society.

A range of other issues regarding the governance of home-based work and the workhome emerged from the interviews. These occurred because neither the practice nor the building type is currently generally recognised in England. In particular anomalies surfaced regarding the law and this hybrid building type, which is complex. It is embodied in a) the Landlord and Tenant Acts, b) the Town and Country Planning Acts, c) the Leasehold Reform, Housing and Development Act 1993, and d) the Housing Benefit Regulations. Cases relating to this building type revolve around a determination of the primary function of the building²⁰⁹ and whether it is bound by housing law, or by commercial property law. Housing law offers tenancy protection that is not available under commercial property law. Aspects of the law have been published in relation to the case of a tenant who wished to convert his live/work lease to residential (Rees, 2004). As this building type is accepted into the architectural lexicon, it is likely that the law will develop accordingly.

The issues that have arisen regarding the governance of this hybrid building type appear to be central to the invisibility of both the practice and the workhome in contemporary

²⁰⁹ i.e. 'home dominated' or 'work dominated'. The 'equal status' workhome does not appear to be legally represented.

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Figure 206: 'Swathes of terraced houses' at Preston in the 1930s

Figure 207: Post-war 'estates of semis' at Heswall Cheshire



society. It has been suggested that changes of a radical nature are needed to local taxation systems, planning frameworks, and tenancy agreements in social housing, in order to bring this practice, and therefore these buildings, out from the shadows.

Implications for the urban context

Arguing that a probable result of the growth of informational capitalism is the proliferation of the workhome, this research has many implications for the city. Providing for a burgeoning home-based workforce could have a profound impact on urban design and the nature of the individual neighbourhood. The urban settlements of industrial capitalism have generally been organised around a core and a periphery. It seems probable that under informational capitalism a fine-grained 24-hour mixed-usage is likely to dilute this, the result of a growing home-based workforce. Lefebvre spoke of...

“...an urban political agenda based on the right of access and possession of the city as a common good and an on-going, collective production.” (cited in Shields, 1998 p143)

The weakening of the core and periphery phenomenon through the development of the home-based workforce is likely to have a democratic effect on the city, as it breaks down the hierarchy that Lefebvre identifies between residential areas, commercial areas, leisure areas, and areas for the marginalized. This potentially increases both ‘the right of access’ and the ‘possession of the city as a common good’.

Vast swathes of terraced houses were built to house industrial workers in the nineteenth century [fig 206], while in the twentieth century estates of semis were built for commuting office-workers [fig 207]. These buildings are superficially similar, but beneath the surface radical differences exist, many of these houses combining the functions of dwelling and workplace. Occupants are turning their creativity and intelligence to the re-ordering of space to accommodate this dual function, often without any visible external sign. A row of terraced houses may include a research office, an artist's studio, a dressmaker's workshop, a commercial kitchen, a manufactory for electronic components and a number of data processing offices, for example. The “fragmentation of life (e.g. work and home) between different places” (Saunders, 1986 p144), necessary for the core operations of industrial capitalism, but never universal, is reducing. Home-based work subverts the clarity of the social and physical forms that previously embodied the social relations of industrial capitalism, as the boundaries between ‘work’ and ‘life’ become blurred once more. The central positioning of commercial functions while “residential use of space is relegated to the periphery” (Saunders, 1986 p144), becomes an outdated model, as people increasingly work in their homes or live at their workplaces. As a result the

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accepted "hierarchy of control between dominant and subordinate places" (Saunders, 1986 p144), is also subverted. Many villages are being transformed, their days as commuter deserts receding as many employers, employees and self-employed people, operating in a range of different occupations across a wide social gradient, rub shoulders through home-based work in adjacent buildings. It is becoming more difficult to 'read' the social and spatial power relationships of capitalism from the outside of buildings or the layout of the city. This is not currently true of the corporate sector, in areas such as the City of London, but if initiatives such as Conran's 'Work/live' proposal (Conran & Partners, 2005) come to fruition, such areas also have the potential to be transformed.

It has been argued in this thesis that the needs of the home-based workforce are being given little attention in the design and planning of cities, towns and villages. While the importance of mixed-use development is increasingly acknowledged, and there is much talk about creating communities and making places for people to both live and work, home-based work continues to be ignored, despite being an essential component of past 'sustainable' communities. A contemporary mixed-use development in South Dalston Lane, Hackney, proposes over 500 dwellings in tower blocks on two adjacent sites. 'Mixed-use' in this context is limited to the inclusion of five commercial units, a library/ archive and a transport interchange²¹⁰. Local pressure groups failed in their bid to make the development more genuinely mixed-use, and following the Hackney 'live/work' planning debacle, the inclusion of workhomes was not even considered for this site²¹¹.

A similar phenomenon is visible in current proposals for the extensive redevelopment of East London, including the Olympics, the Lower Lea Valley and the Thames Gateway. While this offers, as Prescott acknowledged in 2002, a major opportunity, it also presents the potential threat that dormitory settlements, built to minimum space standards around the basic functions of eating, sleeping, bathing and watching TV, will be built with the expectation that their inhabitants will commute to London to work. This would create further daytime 'wastelands' and put additional pressure on transport infrastructures. Although transport solutions are being planned (Mayor of London, 2004), it would be more sensible to minimise the need for the new inhabitants to travel. Designing for the home-based workforce simultaneously takes pressure off the transport systems and

²¹⁰ See Hackney Planning Sub-Committee report 13.07.2006, LBH Cabinet Report 18.09.06 and Hackney Planning Sub-Committee report 13.03.2006 for details of the two combined adjacent schemes.

²¹¹ In a representation to LBH Planning department/ regeneration department regarding their plan to revoke the 'live/work' SPG, the LBH officials did not accept a) that home-based work was a significant phenomenon, b) that it was on the increase or c) that it required consideration at both the scale of the building and at an urban scale. (Meeting with Peter Heath and David Hare, LBH planning/ economic development officers 31.08.05)

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contributes to the creation of sustainable communities. One of the essential ingredients of Prescott's "good towns and cities" of the past (Prescott, 2002), is a mixture of uses at all times of day, ensuring busy, and therefore safe, districts (Jacobs, 1962, printing 1994 p60-65). Encouraging people to work at or from home, or to live at their workplace, would contribute to this. The development of a range of workhomes, together with frameworks to support home-based work, could make a major contribution to the success of this regeneration project. This would correspond to the original 'long life, loose-fit, low energy' vision of the Urban Taskforce (1999). That the Thames Gateway, the largest new town to be built for decades, is being planned primarily around the provision of traditional dwellings, in the context of a rapidly growing home-based workforce, lacks foresight. There is a danger of repeating the problems generated by earlier estates such as Becontree.

This research shows that home-based work has the effect of stimulating the local economy and thereby increasing the prosperity of a neighbourhood. It has also been shown to increase local social interactions and a sense of neighbourliness, and to contribute to greater safety on the streets. Purely residential areas tend to be deserted during the day and employment areas at night. Both are vulnerable to crime when empty. Booth's notebooks reveal an 'infrastructure' of 'live-in' members of the community, including police-officers, fire-fighters, shopkeepers, caretakers, clergy, restaurateurs, funeral directors, company managers and school-teachers, who kept a watchful eye on their immediate neighbourhood. Inevitably well-known and often well-respected, these people formed an intermediate, invisible but firm, layer of security in their locality. The demise of such residential posts may have contributed to the reduction in both neighbourhood security and also community 'feeling'. While the tradition of the clergy living next to their church continues, contemporary schools are rarely built to include school-keeper or head-teacher's accommodation. Although many of the Victorian board schools that are still in use still have a resident school-keeper, most modern schools have no residential element, potentially making them vulnerable when the school is not in use. The cost of fire damage to schools in the UK rose to a record high of £96.6 million in 2002. It is estimated that 90 per cent of school fires are caused by arson attacks (Zurich Municipal, 2003). While there is growing concern about this, the resulting recommendations focus on improvements to physical elements such as boundary security, alarm systems, sprinklers, fire breaks in wall, ceiling and roof voids and the storage of flammable material (Zurich Municipal, 2003). It would be interesting to analyse the fires in terms of those

²¹² Neither the London Fire Brigade or the DfES were able to supply these statistics

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with resident school-keepers and those without²¹². It seems probable that schools with a residential member of staff are less vulnerable to attack. A cost-benefit analysis might well indicate that the live-in option was the most economically efficient solution. The same could be true for a range of other 'live-in' caretaking posts. It is now more usual for security firms to fulfil this function, but it is questionable whether they are as effective.

This sector of the home-based workforce makes a contribution to the cohesion of the neighbourhood as a result of its public profile. In addition, there is a sector of the home-based workforce that is remarkable for its near-invisibility. The evidence from this research shows, however, that these people also play an important role in the reduction in street crime by watching their streets. As the spatiality of informational capitalism becomes more clearly defined, this function is likely to proliferate, with the potential consequence of busier, safer, more cohesive neighbourhoods.

Informational work, however, has a tendency to individuality rather than collectivity. The problem of social isolation has been touched on earlier. Clustered workhomes offer the possibility of developing communities of home-based workers. Lessons can be learned from the form and layout of precedents such as the Coventry cottage factory. Participants inhabiting such home-based working communities commented on the benefits (including shared childcare, collaboration and skill-sharing) and the support and camaraderie of being around people with a similar occupation and lifestyle. There is also the potential for more formal benefits such as collective administrative facilities and meeting rooms. A whole new form of collectivity is likely to develop, that may lead to the development of a range of new communal facilities. Richard Florida's thesis that regeneration follows the lead of the unconventional avant-garde creative sector (Florida, 2002) would suggest that arrangements such as that of the graffiti artist in East London may be models for a future home-based society. The problematic 'live/work movement' may yet prove to have been a faltering start to something much larger and more widespread.

Chapter conclusions

This chapter makes a contribution to the debate on architectural solutions and governance policy for the workhome, and its urban context. It is clear that the practice is developing apace, despite punitive governance of the sector. The existing building stock is being quietly adapted to meet the needs of the home-based workforce. However, this movement, and the important contribution it can make to society, now needs to be recognised by policy makers. Governance policies are required that encourage and support home-based work, enabling both the workforce to emerge from the woodwork,

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and buildings to be designed to accommodate the dual functions. This is a major project, implying a transformation of society as we currently understand and experience it of a similar scale, potentially, to that which was experienced after the industrial revolution. Inevitably there will be a myriad of resistances to such change. It is only by opening the debate that this project may be moved forward.

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Conclusions

This research has identified an old but previously unacknowledged building type, the building that combines dwelling and workplace. It has been found in both vernacular and high architectural traditions, in the oeuvre of many architects, and in contemporary use all around us. Its hybrid nature has been shown to generate a particular, sometimes idiosyncratic, architectural language that often involves the juxtaposition of domestic and industrial volumes and elements.

By bringing together historical and contemporary examples, this research has uncovered the continuous existence of this building type over time in England. Through an analysis of the contemporary home-based workforce and its associated buildings, a series of underlying building types and user-groups has been revealed.

Although in constant and increasing use all around us, it has been found that this building type is not commonly built today. The contemporary home-based workforce has consequently been found to adapt the buildings it inhabits to meet the needs of the dual functions in thoughtful and imaginative ways. Information about its design has been unearthed through a detailed investigation of this phenomenon, as well as from the study of a range of both contemporary and historical purpose-built examples. This material provides a resource for the future design of such buildings.

This building type has previously been nameless which, it is suggested in this research, is in part why it has been hidden. An important aspect of this research has therefore been to propose a name for it. The term 'workhome' has been devised, together with a range of associated terms, to provide a stable language to refer to these buildings.

So, a building type potentially as rich as 'house' has been named, analysed and its history unearthed. This thesis argues that this both warrants and facilitates its inclusion in the architectural lexicon and in mainstream architectural classification systems. Finding this apparently 'new' building type has profound implications. It has the potential to change the way the city is conceived, to open new avenues of architectural thought and investigation, and to affect the way that buildings are designed. The three initial aims of this thesis, to establish the workhome as an identifiable building type with a continuous, traceable history, to explore the contemporary manifestation of this building type, in part through the development of a number of typologies, and to contribute to the debate on architectural solutions and governance policy for this building type, have been met. In

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the process, a wealth of material (ranging from over-arching observations on the nature of contemporary capitalism to minute observations about the design of glare-free natural lighting in the workhome) has been unearthed and developed. It is suggested that this research project is read as a beginning, the opening of a much bigger conversation.

This is an interesting moment in history. We are confronting a new form of organization of work, similar in ways to a pre-industrial pattern, but underpinned by new information and telecommunications technologies. This research suggests that informational capitalism and industrial capitalism have different spatialities. The on-line economy makes the geographical location of work increasingly unimportant, and as a result individual lives, buildings and collective neighbourhoods are in the process of being transformed. However, the spatiality of industrial capitalism, characterised by the zoned separation of residential and employment functions, with increasingly efficient transport systems enabling ever-greater distances to exist between the two, is still dominant. The social and physical forms that resulted from the industrial revolution are still largely operational.

This thesis argues that the recent rapid increase in the size of the home-based workforce is the result of a surreptitious social and spatial reordering that is taking place due to the ongoing information revolution. While not as readily apparent as that of the industrial revolution (no mills are being built, there is no massive rural migration to the cities causing overcrowded and insanitary slums), it is argued that this social and spatial re-ordering may be as radical, and become as extensive, as that following the industrial revolution. With telecommunications and information technologies reducing the need for work to be carried out in collective workplaces, people in the UK are increasingly working at or from home, or living at their workplace. It could be argued that this is a negative trend, the world of work encroaching on, and indeed taking over, the private sphere of the home. But this research has found that people dislike commuting and enjoy home-based work. The interests of informational capitalism appear, controversially, to be aligned with those of the home-based workers at least in the first instance, although we cannot see beyond this with any certainty. The central conflict between capitalist and worker, embedded in industrial capitalism, appears to lose its bite under informational capitalism as the workers start to regain the control over their work and their lives that their pre-industrial forebears enjoyed.

This thesis suggests that home-based work may be in the process of moving back from a marginal to a mainstream practice. Most participants in this research said they

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either liked or loved the practice, the advantages outweighing the various social, spatial and environmental disadvantages. However, despite this UK society is still mainly organised around the processes developed under industrial capitalism, and many of the disadvantages experienced by participants, such as social isolation, distraction, inappropriately organised or insufficient space, appear to be a direct consequence of this. Many individual organisations, recognising the benefits of home-based work, are in the process of adapting their operations to it. The practice has not yet, however, surfaced as a wider policy issue. This is overdue. Home-based work has the potential to make a major contribution to the development of lively and diverse neighbourhoods, and to the sustainable regeneration of the UK economy. This thesis argues that the acceptance of this practice as a basic plank of social policy has the potential to reduce or remove many of the disadvantages to home-based work, through changes in perception, design and governance. This could contribute to the acceptance of the workhome as a recognised building type with a great deal of social and architectural potential.

There are also profound implications in this for building design. The 'discovery'²¹³ (or 'uncovery'?) of a previously unacknowledged building type is a rare event in the architectural world. However it appears that the workhome may be described in this way. Its history has been traced from medieval times and examples are known from many different cultures²¹⁴. A wide range of contemporary examples has been studied and analysed, resulting in the emergence of a number of spatial typologies. There may be many ramifications in this 'discovery'; major tasks await the researcher and the architect alike. This research has revealed continuity in the workhome over time, in terms of form and space. The medieval longhouse, with its open-plan multi-functional space and sleeping platform, can be seen as the ancestor of the contemporary 'live/work unit', while the modern studio-house bears many similarities to the eighteenth and nineteenth century weaver's houses with their extended glazing to the loom-shops. Once the rigid categories of 'dwelling', 'factory', 'office', 'shop', are broken down, a range of architectural and urban possibilities opens up.

The creation of a conceptual framework for home-based work and the workhome is intended to stimulate its acceptance as one of the basic 'building blocks' of future society and architectural practice. It is also intended to encourage the development of new forms of workhome appropriate to the needs of the twenty-first century, and the

²¹³ Which has, of course, been made over time by a number of different players, all working in similar areas in different ways.

²¹⁴ For example the Singaporean shop-house, the Japanese machiya

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introduction of policies that facilitate home-based work. Three building typologies have been developed, intended as tools for the design of future workhomes and the analysis of existing ones. The recent spate of live/work developments was, in general, built without a clear understanding of the requirements of the end-user, and many tended to a 'one-size fits all' design approach, which meant they only provided appropriate accommodation for a small proportion of home-based workers. The range of different home-based occupations included in this study has led to a sympathy with the approach pursued by Beigel and Christou in Leipzig, of "designing for uncertainty" (Beigel and Christou, 1996). But despite the general uncertainty about the workhome, there are a number of known fixes. In this research, different user-groups have been identified, classified according to their lifestyle, their occupation and motivation for working in this way. Some of these groups have contrasting spatial and environmental requirements. This finding may contribute to the development of designs appropriate to these different sectors.

The material in this thesis may be useful either in the formulation of, or in making responses to, design briefs for future workhomes. An early decision in the design process is the identification of the type of end user, 'juggling parents', 'backbone of the community', 'obsessive artists' etc. A next step is to decide whether the proposed workhome(s) will be dwelling or workplace dominated. Building typology no. 1 (dominant function: 'work dominant', 'home dominant' or 'equal status') provides a tool for making this decision. A further step is to decide the appropriate spatial design strategy, determining the degree of spatial separation between the dwelling and workplace aspects of the future workhome(s). Building typology no. 2 ('live-with', 'live-adjacent', 'live-nearby') helps with this. Building typology no. 3 ('all spaces in dual use' etc.) provides a tool for thinking about possible patterns of use within the building, thus helping to refine the spatial design. In addition the thesis contains practical information about more detailed design issues such as scale, entrance, space standards and storage, as well as environmental and servicing issues such as lighting, heating and acoustics. The historical study also contains information that may be of use in the design of future workhomes. The publication of this material in an accessible form is a possible future project.

There are major implications in this thesis for urban design and regeneration. When speaking at the Urban Summit in 2002, the Deputy Prime Minister said:

"There's an appetite for change, a willingness to break from the past, and we have to learn from our mistakes. There was a social and economic cost to badly planned dormitory towns and the urban sprawl. It's a pity we ignored

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the lessons of our old towns, which gave us good quality buildings and sustainable communities. We have to learn from the past - the good and the bad - and from the experience abroad so that we can create world-class towns and cities. We need new ideas, new vision and a step-change, not just in housing, but in planning, land use, construction and design; a new urbanism and a new vision for the 21st century." (Prescott, 2002)

One of the "lessons of our old towns" is that the fine-grained 24-hour mixed-use that results from home-based work creates sustainable communities, and that home-based work has a role in this new vision for the twenty-first century. The Department of Communities and Local Government supports the idea of home-based work in principle, because it fulfils many of the strategic aims of central government in terms of environmental, social and economic sustainability. But this support is not built into policy, and as a result, neither neighbourhoods nor individual buildings are being designed to accommodate this practice. Designers talk about creating communities and making places for people to both live and work, but few include provision for home-based work, even though it was an essential component of 'sustainable' communities in the past.

The integration of activities involved in home-based work benefits individual neighbourhoods by stimulating the local economy, improving safety on the streets and increasing local social interaction. The importance of mixed-use development is increasingly acknowledged but the fact that a substantial proportion of the population is engaged in home-based work continues to be ignored. There is a widespread, but covert and unacknowledged, breakdown of zoning in the contemporary English town, village and city. People are both living and working in 'industrial and commercial' zones, and both working and living in 'residential' zones. It may be that the functional zoning on which English urban planning has been based since 1947 is becoming redundant under informational capitalism. Prescott called for "...new thinking and new ideas... a bit of vision." Here is a new, old idea, with a lot of mileage.

There are serious implications for governance. It has been widely recognised that the effects of the information revolution for society are immense, but what has been less widely recognised is the consequent need to rethink the basic governance structures of our society. These remain stuck in the industrial past, servicing a social model and a gendered division of labour that is increasingly out of date. Current government structures appear to be working in opposition to the natural requirements of informational capitalism by continuing to regulate the 'moral and practical foundations' of industrial capitalism, rather than responding to the needs of informational capitalism. It seems probable that the spheres of 'home' and 'work' will become increasingly re-integrated, and governance

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structures will need to change to reflect this. This change might take many forms. It might include a combined Ministry of Housing and Employment, or planning regulations that do not differentiate between 'residential' and 'employment' land.²¹⁶ The workhome might be incorporated as a new planning Use Class, or tax breaks might be introduced for home-based workers, in recognition of the contribution they make to neighbourhood safety, stimulation of the local economy and reductions in carbon emissions. Complex issues would be raised by such radical departures from existing structures, but thinking and political action of this order is needed to realise the spatial consequences of the information revolution.

Home-based work did not even get a mention in the 'Sustainable Communities' plan (ODPM, 2003). Knowledge about the phenomenon is limited and fragmented. Social research on home-based work tends to focus either on the exploitative practices of 'homeworking', or the benefits to society of home-based entrepreneurs or teleworking, but not on the whole picture. Workhomes have previously been little documented, either historically or in contemporary terms. Without a holistic social and architectural understanding of the phenomenon it is difficult to make effective policy. Even some contemporary planners, who might be expected to have a more sophisticated understanding of the field, consider that the 'spare bedroom' approach is an acceptable spatial solution²¹⁷. This suggests a profound ignorance of contemporary practice. Grey areas in the governance of home-based work, such the need for planning permission or the increased cost of combined business rates and council tax, result in covert inhabitation. Contemporary governance systems, often punitive in their effect on home-based workers, need to be adjusted to enable and encourage the development of home-based work and its associated building type, the workhome.

The ideology of 'going to work' is powerfully imprinted on the psyche of contemporary society. There is resistance to the decentralisation and re-domestication of productive work. To many, working at home still has a stigma attached to it; it does not count as 'proper' work. Similarly the powerful and contrasting imagery of the representational spaces of 'home' and 'work' cause difficulty for certain groups of home-based worker. This offers a challenge to the designers of the workhomes of the future. Precedents exist, such as the artist Ozenfant's studio-house, Dr Dalsace's combined gynaecological practice and dwelling in the Maison de Verre, or the nineteenth-century cottage factories

²¹⁶ The proposal to form an agency, 'Communities England', that brings together the regeneration agency, English Partnerships, and the Housing Corporation, announced by Ruth Kelly, Secretary of State for Communities and Local Government, on 17 Jan 2007, starts to break the mould of the former 'silos' of 'housing' and 'trade and industry'.

²¹⁷ Meeting with Peter Heath and David Hare, LBH planning/ economic development officers 31.08.05

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in Coventry, that demonstrate how the combined functions of dwelling and workplace can be brought together in a single building to create a practical architecture. The development and popularisation of this architecture will be an essential aspect of developing a more generalised acceptance of home-based work.

This research found that home-based work enabled carers, the elderly and the disabled to be economically active. The potential anonymity of the practice when using the Internet enabled participants to develop their careers successfully without fear of workplace discrimination. Home-based work may justifiably be promoted as an inclusive employment practice. Often viewed merely as either an exploitative, unregulated form of employment or a springboard for entrepreneurship, it may now be seen in a new light.

It can be argued that the home-based workforce is vulnerable to exploitative employment practices because of the difficulty such a workforce has in taking collective action. This is clearly an issue. However mechanisms such as the National Minimum Wage and the Ethical Trading Initiative's Base Code together with the work of the campaigning group, the National Group on Homeworking, are contributing to the reduction of such exploitative practices in relationship to home-based work²¹⁸. The acceptance of home-based work as a mainstream employment practice would further improve the situation. It is suggested that attention now needs to be paid to the physical environment in which this work is carried out, and in particular to space standards in both the social housing and the starter home markets, and in allocations practices for the former, as care needs to be taken not to repeat the overcrowded and insanitary conditions of the nineteenth century slum. The incorporation of the workhome into planning categories and housing policy, recognising its particular spatial and environmental requirements, is a necessary first step. Attention also needs to be paid to health and safety, but with an awareness that the over-zealous application of h and s legislation would result in the sector remaining 'inconspicuous'.

Finally there are implications for sustainability and transport. Castells sees "...sustainable development as a fundamental theme of our civilisation" (1992 p9). Meadows et al asserted:

"If the present growth trends in world population, industrialisation, pollution, food production and resource depletion continue unchanged, the limits to growth on this planet will be reached sometime within the next 100 years. The most probable result will be a rather sudden and uncontrollable decline

²¹⁸ Much of this work is, of course, being 'exported' to countries that have less rigorous employment laws, see ALAM, K. & HEARSON, M. (2006) Fashion Victims: the true cost of cheap clothes. War on Want,

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in both population and industrial society". (1972)

Home-based working has been shown to reduce the contribution that transport makes to UK carbon emissions. It has also been shown to improve the quality of life of the working population and to ease the pressure on the UK's over-stretched transport infrastructure. A tendency to a narrow focus, however, in the development of policies, encouraged by separate silos of government, leads transport ministers to a preoccupation with policies for trains, buses, cars and bicycles, while environment ministers concern themselves with sustainable means for generating energy. In order to generate home-based-work-friendly policies, policy-makers will need to collaborate across disciplines. As awareness of the global climate crisis grows, the intrinsic sustainability of this practice may prove to be its most important, and enduring, characteristic.

This research suggests that innovations in information and telecommunications technology are stimulating the home-based workforce to grow annually. Home-based work may be in the process of moving back from a marginal to a mainstream practice. The buildings it inhabits, and their relationship to each other and the urban fabric, have been in urgent need of analysis. It is only through developing an understanding of their spatial and environmental characteristics that designs for this 'Cinderella' of building types will emerge, to offer appropriate and inspiring accommodation for all sectors of the burgeoning twenty-first century home-based workforce.

These new forms could make an important contribution to the social, physical and economic regeneration of our cities, towns and villages. However the hands of the architects, planners, developers, providers of social housing and clients are currently largely tied by the frameworks within which they work. This research suggests that there is pressing need for change in the way we conceptualise the activities of 'work' and 'life' and the buildings in which they take place, and for this change to be embodied in legislation. The inclusion of this previously unacknowledged building type, the workhome, in the architectural lexicon has the potential to make a valuable contribution to this process.

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